

GiViTI

Gruppo Italiano per la Valutazione degli Interventi In Terapia Intensiva

**Report
PROSAFE project**

Year 2020

Overall population (5 ICUs)

Description of hospitals (N=5) - Year 2020

Number of beds in hospital	N	%
< 300 beds	2	40.0
300 - 800 beds	2	40.0
> 800 beds	1	20.0
Missing	0	

Type of ICUs present in hospital	N	%
General	1	20.0
Medical	4	80.0
Surgical	4	80.0
Neurological/neurosurgical	1	20.0
Cardiosurgical	1	20.0
Burns	1	20.0
Post-transplantations	0	0.0
Other	1	20.0

Type of subICUs present in hospital	N	%
General	1	20.0
Surgical	3	60.0
Cardiological	1	20.0
Respiratory	0	0.0
Neurological (stroke unit)	1	20.0
Other	2	40.0

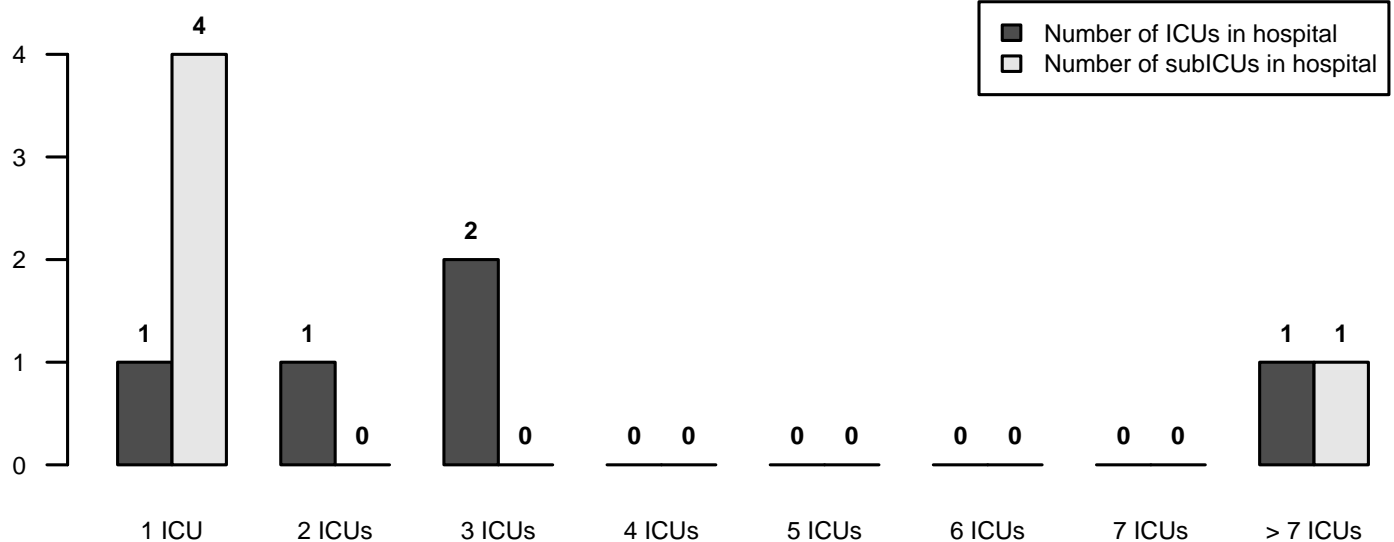
Non surgical specialties	N	%
Cardiology	4	80.0
Pulmonology	3	60.0
Nephrology	4	80.0
Infection disease	2	40.0
Pediatric	4	80.0
Neonatology	1	20.0
Neurology	4	80.0
Haematology	3	60.0
Emergency room	4	80.0
Traumatology	3	60.0
Emergency medical	3	60.0

Surgical specialties (independent ward)	N	%
Neurosurgery	1	20.0
Cardiosurgery	1	20.0
Major vascular surgery	3	60.0
Thoracic surgery	1	20.0
Pediatric surgery	1	20.0
Transplantation activities	1	20.0

Surgical specialties (procedures only)	N	%
Neurosurgery	4	80.0
Cardiosurgery	1	20.0
Major vascular surgery	1	20.0
Thoracic surgery	1	20.0
Pediatric surgery	4	80.0
Transplantation activities	1	20.0

Services/activities available in H (h24)	N	%
Neuroradiology	3	60.0
Interventional neuroradiology	2	40.0
Interventional vascular radiology	2	40.0
CT scan	5	100.0
MRI	4	80.0
Interventional hemodynamic	3	60.0
Endoscopy	5	100.0
Bronchoscopy	4	80.0
Hyperbaric chamber	0	0.0

Services/activities available in H (rep.)	N	%
Neuroradiology	1	20.0
Interventional neuroradiology	0	0.0
Interventional vascular radiology	2	40.0
CT scan	0	0.0
MRI	1	20.0
Interventional hemodynamic	0	0.0
Endoscopy	0	0.0
Bronchoscopy	1	20.0
Hyperbaric chamber	1	20.0



Description of ICUs (N=5) - Year 2020

Number of activable beds		
Mean (SD)	10.4	(6.7)
Median (Q1–Q3)	8	(6-10)
Missing	0	

Number of beds declared to hospital		
Mean (SD)	10.4	(6.7)
Median (Q1–Q3)	8	(6-10)
Missing	0	

University affiliation	N	%
Yes	3	60.0
No	2	40.0
Missing	0	

Square meter per bed		
Mean (SD)	15.8	(11.8)
Median (Q1–Q3)	13	(10-21)
Missing	0	

Clinical psychologist	N	%
No	2	40.0
For relatives	1	20.0
For patients	3	60.0
For personnel	0	0.0

ICU Structure	N	%
NON OPEN-SPACE	1	20.0
OPEN-SPACE (or alike)	4	80.0
Missing	0	

Physicians	N	%
Dedicated to ICU only	0	0.0
Dedicated to ICU on a rotation basis	1	20.0
Dedicated to ICU only and on a rotation basis	4	80.0
Missing	0	

Declared beds per physician (average)		
Mean (SD)	5.2	(2.9)
Median (Q1–Q3)	3.7	(3.6-6.7)
Missing	0	

Nurses	N	%
Dedicated to ICU only	3	60.0
Dedicated to ICU on a rotation basis	0	0.0
Dedicated to ICU only and on a rotation basis	2	40.0
Missing	0	

Declared beds per nurse (average)		
Mean (SD)	1.8	(0.2)
Median (Q1–Q3)	1.8	(1.7-2)
Missing	0	

Number of hours conceded for relatives' visits	N	%
1	4	80.0
2	0	0.0
3-4	1	20.0
5-12	0	0.0
13-20	0	0.0
>20	0	0.0
Missing	0	

Maximum number of visitors per patient	N	%
One	1	20.0
Two	4	80.0
Three or more	0	0.0
Missing	0	

Biomedical devices per declared bed	Median	Q1-Q3	<5 Years (mean %)
Total available monitors (excluding those dedicated to transport)	1.3	1.3–1.3	25.0
of which only for basic monitoring (without transducers detection of invasive pressure, pic, pvc, ...)	0.0	0.0–0.0	0.0
Invasive monitoring of cardiac output (Swan-Ganz)	0.0	0.0–0.0	0.0
Invasive monitoring of cardiac output (PiCCO)	0.2	0.2–0.3	25.0
Invasive monitoring of cardiac output (Vigileo)	0.2	0.0–0.4	45.8
Non-invasive monitoring of cardiac output (impedentiometry)	0.0	0.0–0.0	75.0
Defibrillators	0.1	0.1–0.2	0.0
Both invasive and non invasive ventilators	1.0	1.0–1.2	29.4
Non invasive ventilators	0.3	0.1–0.4	33.4
Syringe pumps	5.5	4.4–6.0	36.6
Peristaltic pumps	0.3	0.0–1.0	66.7

Biomedical equipment in ICU	N	%
Transoesophageal echo	1	20.0
Basic ultrasounds	5	100.0
Advanced ultrasounds	4	80.0
Blood-gas analyzer	4	80.0
Haemodialysis - Haemofiltration	4	80.0
Transport ventilator	5	100.0
Fiberscope	5	100.0
Extracorporeal circulation system	1	20.0

Routine microbiological surveillance cultures	N	%
Yes	5	100.0
No	0	0.0
Missing	0	

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult patients evaluated in the GiViTI model

Patients (N): 1288

Sex	N	%
Male	817	63.5
Female	470	36.5
Missing	1	

Age (years)	N	%
17-45	140	10.9
46-65	430	33.4
66-75	342	26.6
>75	376	29.2
Missing	0	
Mean	65.7	
SD	15.4	
Median	68	
Q1–Q3	57-77	
Min–Max	17–96	

Body mass Index (BMI)	N	%
Underweight	53	4.1
Normal	467	36.3
Overweight	472	36.7
Obese	295	22.9
Missing	1	

Pregnancy status	N	%
Females (N=470)		
Not fertile	234	49.8
Not pregnant/Unknown	232	49.4
Currently pregnant	0	0.0
Post partum	4	0.9
Missing	0	

Comorbidities	N	%
No	166	12.9
Yes	1122	87.1
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	700	54.3
Any tumour without metastasis	316	24.5
Arrhythmia	260	20.2
NYHA class II-III	194	15.1
Metastatic cancer	175	13.6
Diabetes Type II without insulin tr.	173	13.4
Moderate or severe renal disease	129	10.0
Peripheral vascular disease	124	9.6
Endocrine-metabolic diseases	118	9.2
Drug-induced coagulopathy	105	8.2
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	4.9	11.2	1	0-4	0

Source of admission	N	%
Same hospital	1203	93.4
Other hospital	85	6.6
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=1288)		
Medical ward	112	8.7
Surgical ward	786	61.0
Emergency room	269	20.9
Other ICU	70	5.4
High dependency care unit	51	4.0
Missing	0	

Reason for transfer from	N	%
Other ICU (N=70)		
Specialist expertise	15	21.4
Step-up care	20	28.6
Logistical/organizational reasons	27	38.6
Step-down care	8	11.4
Missing	0	

Ward of admission	N	%
Same hospital (N=1203)		
Medical ward	106	8.8
Surgical ward	774	64.3
Emergency room	242	20.1
Other ICU	38	3.2
High dependency care unit	43	3.6
Missing	0	

Ward of admission	N	%
Other hospital (N=85)		
Medical ward	6	7.1
Surgical ward	12	14.1
Emergency room	27	31.8
Other ICU	32	37.6
High dependency care unit	8	9.4
Missing	0	

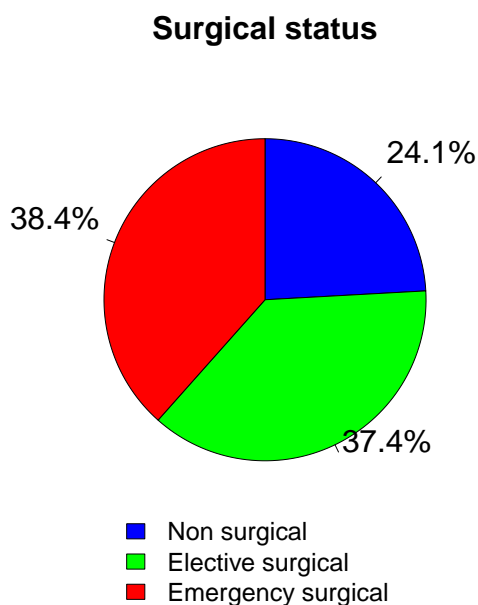
Scheduled admission	N	%
No	874	67.9
Yes	414	32.1
Missing	0	

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult patients evaluated in the GiViTI model

Trauma	N	%
No	1046	81.2
Yes	242	18.8
Multiple trauma	97	7.5
Missing	0	

Surgical status	N	%
Non surgical	311	24.1
Elective surgical	482	37.4
Emergency surgical	495	38.4
Missing	0	



Source of admission	N	%
Surgical pt. (N=977)		
Operating theatre of surgical ward	646	66.1
Operating theatre of emergency room	122	12.5
Surgical ward	71	7.3
Other	138	14.1
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=482)		
Gastrointestinal surgery	297	61.6
Nephro/Urological surgery	32	6.6
Other surgery	29	6.0
Hepatic surgery	27	5.6
Abdominal vascular surgery	22	4.6
Gynaecological surgery	20	4.1
Orthopaedic surgery	17	3.5
Thoracic surgery	17	3.5
Peripheral vascular surgery	14	2.9
Pancreatic surgery	9	1.9
Missing	0	

Timing	N	%
Elective surgical (N=482)		
From -7 to -3 days	15	3.1
From -2 to -1 days	20	4.1
On ICU admission day	478	99.2
The day after ICU admission	9	1.9
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=495)		
Gastrointestinal surgery	227	45.9
Neurosurgery	96	19.4
Other surgery	39	7.9
Orthopaedic surgery	35	7.1
Organ/s transplantation	19	3.8
Nephro/Urological surgery	15	3.0
Abdominal vascular surgery	15	3.0
Thoracic surgery	14	2.8
Peripheral vascular surgery	14	2.8
Hepatic surgery	11	2.2
Missing	10	

Timing	N	%
Emergency surgical (N=495)		
From -7 to -3 days	28	5.7
From -2 to -1 days	72	14.5
On ICU admission day	426	86.1
The day after ICU admission	29	5.9
Missing	1	

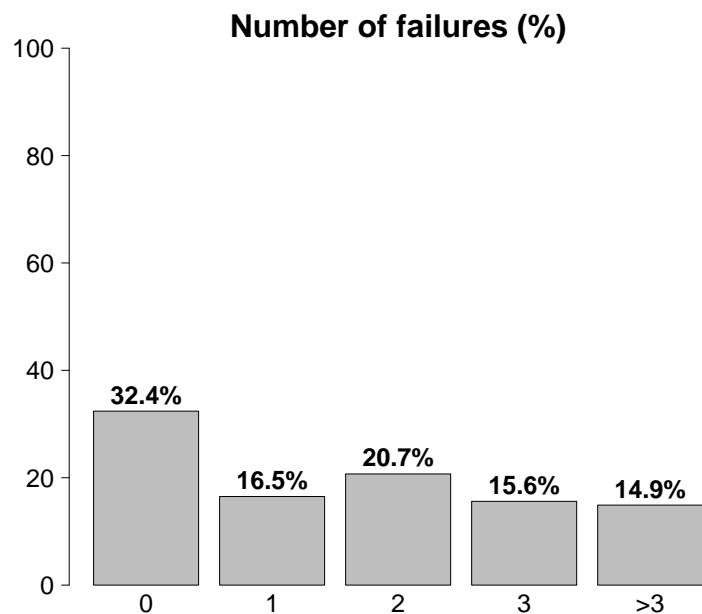
Non surgical interventions	N	%
None	1225	95.1
Elective	8	0.6
Emergency	55	4.3
Missing	0	

Non surgical interventions	N	%
Elective (N=8)		
Interventional radiology	3	37.5
Interventional endoscopy	2	25.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	3	

Non surgical interventions	N	%
Emergency (N=55)		
Interventional radiology	22	40.0
Interventional endoscopy	18	32.7
Interventional cardiology	6	10.9
Interventional neuroradiology	3	5.5
Missing	6	

Overall population (5 ICUs) - Year 2020**Characteristics on admission - Adult patients evaluated in the GiViTI model**

Reason for admission	N	%
Monitoring/Weaning	562	43.6
Post surgical weaning	17	1.3
Surgical monitoring	451	35.1
Post interventional weaning	1	0.1
Interventional monitoring	11	0.9
Non surgical monitoring	79	6.1
Missing	3	
Admission for procedures/treatments	0	0.0
Intensive Treatment	726	56.4
Only ventilatory support	111	8.6
Only cardiovascular support	132	10.2
Ventilatory and cardiovascular support	483	37.5
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	417	32.4
Yes	871	67.6
A: Respiratory failure	594	46.1
B: Cardiovascular failure	615	47.7
C: Neurological failure	73	5.7
D: Hepatic failure	23	1.8
E: Renal failure	467	36.3
F: Acute skin failure	4	0.3
G: Metabolic failure	342	26.6
H: Coagulation failure	53	4.1
Missing	0	

Failures on admission (top 10)	N	%
AB	155	12.0
ABEG	111	8.6
ABE	76	5.9
E	75	5.8
A	60	4.7
ABG	40	3.1
BEG	39	3.0
BE	38	3.0
B	37	2.9
G	33	2.6
Missing	0	

Respiratory failure	N	%
None	694	53.9
Only hypoxic failure	177	13.7
Only hypercapnic failure	39	3.0
Hypoxic-hypercapnic failure	55	4.3
Intubation for airway maint.	323	25.1
Missing	0	

Cardiovascular failure	N	%
None	673	52.3
Without shock	221	17.2
Cardiogenic shock	23	1.8
Septic shock	198	15.4
Haemorrhagic/hypovolemic shock	80	6.2
Hypovolemic shock	11	0.9
Anaphylactic shock	5	0.4
Neurogenic shock	15	1.2
Other shock	22	1.7
Mixed shock	40	3.1
Missing	0	

Neurologic failure	N	%
None	972	93.0
Cerebral coma	51	4.9
Metabolic coma	8	0.8
Postanoxic coma	10	1.0
Toxic coma	4	0.4
Missing or not evaluable	243	

Renal failure (AKIN)	N	%
None	821	63.7
Mild	228	17.7
Moderate	133	10.3
Severe	106	8.2
Missing	0	

Metabolic failure	N	%
None	946	73.4
pH \leq 7.3, PaCO ₂ < 45 mmHg	107	8.3
Base deficit \geq 5 mmol/L, lactate > 1.5x	235	18.2
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics on admission - Adult patients evaluated in the GiViTI model**

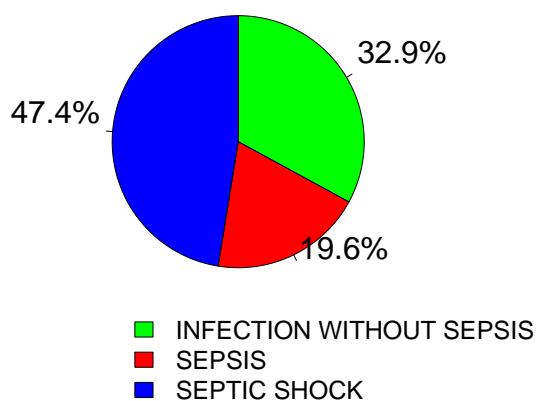
Clinical conditions on admission	N	%
Respiratory	235	18.2
Pleural effusion	83	6.4
Aspiration pneumonia	59	4.6
Atelectasis	34	2.6
Lung cancer	26	2.0
Moderate ARDS	22	1.7
Cardiovascular	210	16.3
Acute severe arrhythmia: tachycardias	48	3.7
Left heart failure without pulm. edema	38	3.0
Cardiac arrest	29	2.3
Non-ruptured aneurysm	27	2.1
Left heart failure with pulmonary edema	24	1.9
Neurological	105	8.2
Brain tumour	24	1.9
Neuropathy/myopathy	18	1.4
Cerebral artery stroke	16	1.2
Seizures	15	1.2
Non traumatic cerebral oedema	12	0.9
Gastrointestinal and hepatic	538	41.8
Digestive tract malignancy	289	22.4
Intestinal occlusion	72	5.6
Gastrointestinal perforation	66	5.1
Paralytic Ileus	55	4.3
Hepatic malignancy	34	2.6
Trauma (anatomical districts)	242	18.8
Head	151	11.7
Chest	85	6.6
Spine	62	4.8
Pelvis/bone/joint & muscle	61	4.7
Abdomen	37	2.9
Major vessels injury	17	1.3
Miscellaneous	1	0.1
Other	359	27.9
Other disease	175	13.6
Nephrourologic disease	98	7.6
Metabolic disorder	53	4.1
Coagulation disorder	53	4.1
Gynaecological disease	27	2.1
Post transplantation	46	3.6
Liver transplantation	25	1.9
Lung transplantation	13	1.0
Infections	489	38.0
Pneumonia	195	15.1
Post-surgical peritonitis	63	4.9
NON-surgical secondary peritonitis	62	4.8
Clinical sepsis	40	3.1
NON-surgical urinary tract infection	38	3.0
NON-surgical skin/soft tissue infection	35	2.7
Primary peritonitis	23	1.8
Post-surgical skin/soft tissue infection	21	1.6
Cholecystitis/cholangitis	18	1.4
Post-surgical urinary tract infection	9	0.7
Missing	0	

Trauma (anatomical districts)	N	%
Head	151	11.7
Traumatic subarachnoid haemorrhage	96	7.5
Traumatic Subdural haematoma	91	7.1
Skull fracture	77	6.0
Cerebral contusion/laceration	74	5.7
Maxillofacial fracture	58	4.5
Spine	62	4.8
Vertebral fracture, without deficit	35	2.7
Tetraplegia	13	1.0
Cervical injury, incomplete deficit	7	0.5
Chest	85	6.6
Traum. haemothorax/pneumothorax	51	4.0
Other injuries of the chest	42	3.3
Severe lung contusion/laceration	36	2.8
Abdomen	37	2.9
Spleen: Moderate-Severe laceration	13	1.0
Minor injuries of the abdomen	13	1.0
Liver: Moderate-Severe laceration	10	0.8
Pelvis/bone/joint & muscle	61	4.7
Long bone fracture	51	4.0
Multiple fracture of the pelvis	8	0.6
Massive crush/amputation	4	0.3
Major vessels injury	17	1.3
Aorta: rupture/dissection	5	0.4
Neck vessels: dissection/transection	4	0.3
Proximal limbs vessels: transection	4	0.3
Miscellaneous	1	0.1
Inhalation injury	1	0.1
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	799	62.0
INFECTION WITHOUT SEPSIS	161	12.5
SEPSIS	96	7.5
SEPTIC SHOCK	232	18.0
Missing	0	

Infection severity on admission

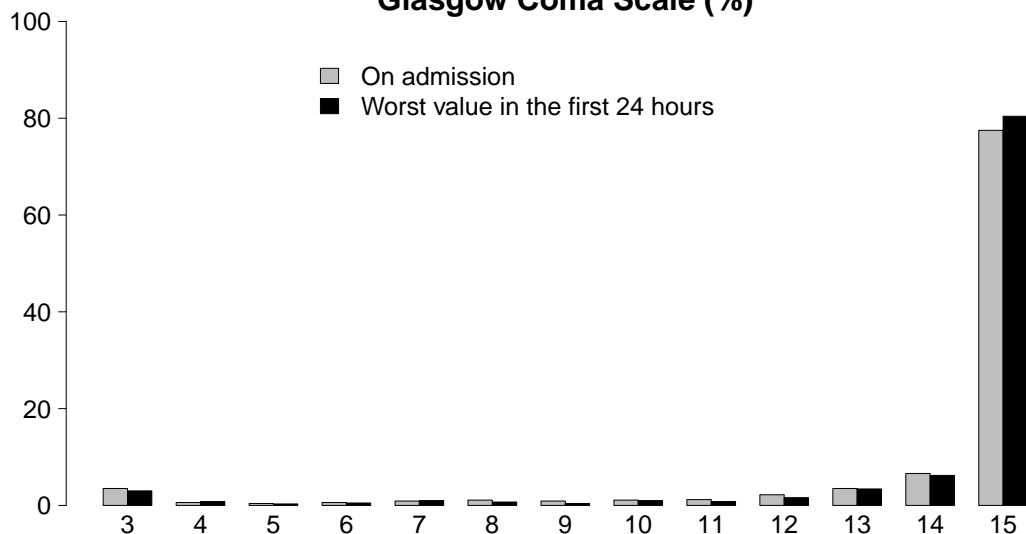
Patients infected (N=489)



Overall population (5 ICUs) - Year 2020

Severity scores - Adult patients evaluated in the GiViTI model

Glasgow Coma Scale (%)



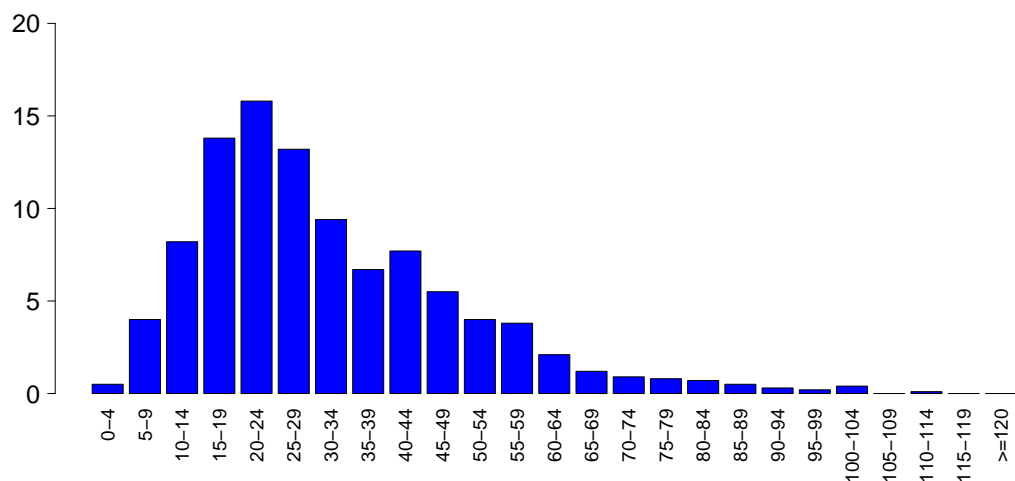
GCS (admission)

Median	15
Q1–Q3	15-15
Not evaluable	243
Missing	0

GCS (first 24 hours)

Median	15
Q1–Q3	15-15
Not evaluable	366
Missing	0

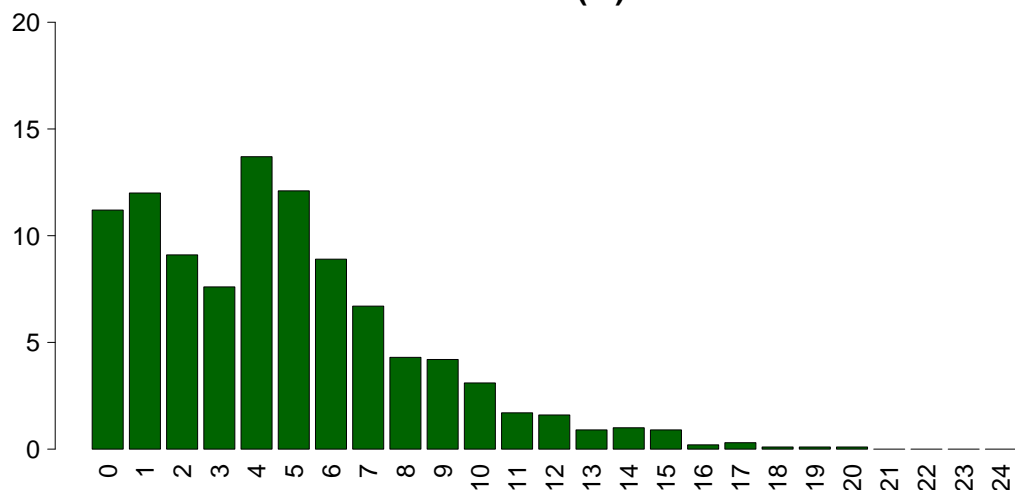
SAPS II (%)



SAPSII

Mean	31.6
SD	17.9
Median	27
Q1–Q3	19-41
Not evaluable	366
Missing	0

SOFA (%)



SOFA

Mean	4.6
SD	3.6
Median	4
Q1–Q3	2-7
Not evaluable	366
Missing	0

Overall population (5 ICUs) - Year 2020**Characteristics during the stay - Adult patients evaluated in the GiViTI model**

Complications during the stay	N	%
No	612	47.5
Yes	676	52.5
Missing	0	

Failures during the stay	N	%
No	992	77.0
Yes	296	23.0

A: Respiratory failure	99	7.7
B: Cardiovascular failure	108	8.4
C: Neurological failure	42	3.3
D: Hepatic failure	50	3.9
E: Renal failure (AKIN)	153	11.9
F: Acute skin failure	2	0.2
G: Metabolic failure	71	5.5
H: Coagulation failure	39	3.0
Missing	0	

Failures during the stay (top 10)	N	%
E	54	4.2
G	33	2.6
A	24	1.9
B	23	1.8
AB	15	1.2
AE	14	1.1
BE	12	0.9
D	11	0.9
C	7	0.5
ABE	6	0.5
Missing	0	

Respiratory failure occurred	N	%
None	1189	92.3
Intubation for airway maint.	15	1.2
Hypoxic failure	71	5.5
Hypercapnic failure	32	2.5
Missing	0	

Cardiovascular failure occurred	N	%
None	1180	91.6
Cardiogenic shock	21	1.6
Hypovolemic shock	6	0.5
Haemorrhagic/hypovolemic shock	12	0.9
Septic shock	64	5.0
Anaphylactic shock	1	0.1
Neurogenic shock	1	0.1
Other shock	13	1.0
Missing	0	

Neurological failure occurred	N	%
None	1246	96.7
Cerebral coma	24	1.9
Metabolic coma	17	1.3
Postanoxic coma	6	0.5
Missing	0	

Renal failure occurred (AKIN)	N	%
None	1135	88.1
Mild	32	2.5
Moderate	40	3.1
Severe	81	6.3
Missing	0	

Complications during the stay	N	%
Respiratory	206	16.0
Pleural effusion	89	6.9
Atelectasis	48	3.7
Aspiration pneumonia	46	3.6
Pneumothorax/Pneumomediastinum	20	1.6
Moderate ARDS	18	1.4
Cardiovascular	173	13.4
Acute severe arrhythmia: tachycardias	96	7.5
Cardiac arrest	23	1.8
Deep venous thrombosis	23	1.8
Pulmonary edema	22	1.7
Acute severe arrhythmia: bradycardias	20	1.6
Neurological	178	13.8
Drowsiness/agitation/delirium	125	9.7
Brain edema	33	2.6
Intracranial hypertension	21	1.6
CrIMyNe	19	1.5
Seizures	14	1.1
Gastrointestinal and hepatic	218	16.9
Paralytic Ileus	113	8.8
Liver Dysfunction Syndrome	43	3.3
Gastrointestinal perforation	30	2.3
Anastomotic dehiscence	24	1.9
Bowel ischaemia	24	1.9
Other	183	14.2
Other disease	85	6.6
Metabolic disorder	71	5.5
Nephrourologic disease	44	3.4
Other skin and/or soft tissue pathology	10	0.8
Category/Stage II: Partial Thickness Skin Loss	6	0.5
Blunt cerebral vessels trauma	2	0.2
Delayed spleen rupture	2	0.2
Infections	301	23.4
Pneumonia	147	11.4
Post-surgical peritonitis	58	4.5
NON-surgical urinary tract infection	29	2.3
Post-surgical skin/soft tissue infection	26	2.0
Clinical sepsis	17	1.3
Other fungal infections	16	1.2
L.R.T.I. other than pneumonia	13	1.0
NON-surgical skin/soft tissue infection	11	0.9
NON-surgical secondary peritonitis	10	0.8
Tertiary peritonitis	10	0.8
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics during the stay** - Adult patients evaluated in the GiViTI model

Infections				Maximum severity of infection				
	N	%		N	%		N	%
None	615	47.7	None	615	47.7	INFECTION WITHOUT SEPSIS	253	19.6
Only on admission	372	28.9	SEPSIS	151	11.7	SEPTIC SHOCK	269	20.9
On admission and during ICU stay	117	9.1	Missing	0				
Only during ICU stay	184	14.3						
Missing	0							

Severity evolution

		N (R %)	During the stay				TOT
			None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	
Admission	None	615 (77.0%)	110 (13.8%)	50 (6.3%)	24 (3.0%)	799	
	INFECTION WITHOUT SEPSIS	-	143 (88.8%)	13 (8.1%)	5 (3.1%)	161	
	SEPSIS	-	-	88 (91.7%)	8 (8.3%)	96	
	SEPTIC SHOCK	-	-	-	232 (100.0%)	232	
	TOT	615	253	151	269	1288	

Ventil. Associat. Pneumonia (VAP)	N	%
No	1157	89.8
Yes	131	10.2
Missing	0	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	30.5
CI (95%)	25.5–36.1

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	24.4%
CI (95%)	20.4–28.9

Catheter Bacteraemia (CR-BSI)	N	%
No	1283	99.6
Yes	5	0.4
Missing	0	

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	0.6
CI (95%)	0.2–1.3

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	0.7%
CI (95%)	0.2–1.5

Overall population (5 ICUs) - Year 2020
Process indicators - Adult patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	1266	98.3										
Invasive ventilation	640	49.7	500	38.8	158	12.3	4	1-13	0	0	0-1	0
Non invasive ventilation	124	9.6	15	1.2	39	3	1	1-3	0	1	0-6	0
Tracheostomy	117	9.1	11	0.9	89	6.9	7	2-15	0	13	8-21	0
iNO (inhaled nitric oxide)	45	3.5	18	1.4	2	0.2	3	2-7	0	1	0-4	0
Central Venous Catheter	1116	86.6	878	68.2	935	72.6	4	2-10	0	0	0-0	0
PICC	76	5.9	27	2.1	51	4	3	1-5	0	1	0-8	0
Arterial Catheter	1135	88.1	847	65.8	411	31.9	4	2-9	0	0	0-0	0
Vasoactive drugs	908	70.5	609	47.3	110	8.5	2	1-6	0	0	0-0	0
Antiarrhythmics	136	10.6	20	1.6	38	3	2	1-5	0	2	0-5	0
IABP	0	0.0										
Invasive monitoring of C.O.	53	4.1	14	1.1	9	0.7	5	2-13	0	0	0-2	0
Continuous monitoring of ScVO2	7	0.5	6	0.5	0	0	4	2-4	0	2	2-2	0
Temporary pacing	4	0.3	2	0.2	0	0	2	1-2	0	0	0-1	0
Ventricular assistance	0	0.0										
DC-shock	24	1.9								2	2-4	0
CPR	16	1.2								0	0-2	0
Massive blood transfusion	18	1.4								0	0-0	0
ICP monitoring without CSF drainage	77	6.0	69	5.4	7	0.5	7	3-14	0	0	0-0	0
ICP monitoring with CSF drainage	14	1.1	9	0.7	7	0.5	16	8-22	0	5	2-14	0
External ventricular drainage without ICP	13	1.0	7	0.5	6	0.5	7	3-14	0	6	3-12	0
Haemofiltration	3	0.2	0	0	0	0	3	2-8	0	1	0-1	0
Haemodialysis	99	7.7	22	1.7	29	2.3	5	1-12	0	3	1-6	0
ECMO	2	0.2	1	0.1	0	0	8	5-11	0	1	1-1	0
Hepatic clearance techniques	1	0.1										
Clearance techniques during sepsis	5	0.4	0	0	1	0.1	1	1-1	0	1	0-1	0
IAP (intra-abdominal pressure)	164	12.7										
Hypothermia	16	1.2	7	0.5	0	0	1	1-1	0	0	0-0	0
Enteral nutrition	644	50.0	73	5.7	435	33.8	5	2-13	0	1	1-2	0
Parenteral nutrition	777	60.3	99	7.7	465	36.1	4	2-8	0	1	1-1	0
SDD (Topical, Topical and systemic)	0	0.0										
Patient restraint	31	2.4										
Peridural catheter	201	15.6	196	15.2	164	12.7	2	2-4	0	0	0-0	0
Electrical cardioversion	8	0.6								2	2-4	0
Vacuum therapy	24	1.9										

Overall population (5 ICUs) - Year 2020
Process indicators - Adult patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	1163	90.3										
Antibiotic prophylaxis	554	43.0	422	32.8	172	13.4	1	0-2	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	407	31.6	218	16.9	88	6.8	3	1-4	0	0	0-2	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	210	16.3	80	6.2	155	12	3	2-5	0	1	0-2	0
Targeted antibiotic therapy	452	35.1	103	8	304	23.6	7	3-14	0	3	2-5	0
Antifungal in empirical therapy	79	6.1	24	1.9	24	1.9	4	2-8	0	1	0-4	0
Antifungal in targeted therapy	105	8.2	19	1.5	63	4.9	10	5-15	0	3	1-8	0
Pre-emptive antifungal	12	0.9	9	0.7	7	0.5	5	4-6	0	14	8-16	0

Antibiotic therapy

Pt. infected in ICU only (N=184)		
	N	%
No therapy	7	3.8
Only empirical	53	28.8
Only targeted	28	15.2
Targeted after empirical	81	44.0
Other	15	8.2
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=184)		
	N	%
No therapy	151	82.1
Only empirical	12	6.5
Only targeted	15	8.2
Targeted after empirical	4	2.2
Other	2	1.1
Missing	0	

Overall population (5 ICUs) - Year 2020**Process indicators - Adult patients evaluated in the GiViTI model**

Invasive ventilation (N=640)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	279	38.0	9.8	11.9	5	2–13	0
For airway maintenance	315	42.9	8.4	9.7	4	1–13	0
In weaning	21	2.9	0.7	0.5	1	0–1	0
Not evaluable	119	16.2	7.4	12.0	1	1–8	94
Reintubation within 48 hours	10	1.4	4.4	2.6	3.5	3–5.75	0

Non invasive ventilation (N=124)	N	%
Non invasive ventilation only	42	33.9
Non invasive ventilation failed	18	14.5
For weaning	54	43.5
Other	10	8.1
Missing	0	

Tracheostomy not present on admission (N=106)	N	%
Surgical	25	23.6
Percutwist	32	30.2
Ciaglia	24	22.6
Monodil. Ciaglia	2	1.9
Fantoni	0	0.0
Griggs	5	4.7
Other Kind	10	9.4
Unknown	8	7.5
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=106)

Mean	14.9
SD	9.2
Median	13
Q1–Q3	8.2-21
Missing	0

Invasive monitoring of C.O. (N=53)	N	%
Swan Ganz	7	13.2
PICCO	42	79.2
LIDCO	3	5.7
Vigileo-PRAM	0	0.0
Other	1	1.9
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	1132	87.9
Yes	156	12.1
Missing	0	

Number of surgical interventions	N	%
0	1132	87.9
1	91	7.1
2	36	2.8
3	12	0.9
>3	17	1.3
Missing	0	

Surgical interventions**Days from admission**

Mean	9.6
SD	9.3
Median	7
Q1–Q3	4-12
Missing	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	157	12.2
Other surgery	36	2.8
Neurosurgery	29	2.3
Orthopaedic surgery	15	1.2
Thoracic surgery	12	0.9
ENT surgery	9	0.7
Nephro/Urological surgery	6	0.5
Maxillo-Facial surgery	5	0.4
Hepatic surgery	2	0.2
Gynaecological surgery	1	0.1
Missing	0	

Non surgical interventions	N	%
No	1221	94.8
Yes	67	5.2
Missing	0	

Non surgical interventions**Days from admission**

Mean	13.0
SD	10.4
Median	10
Q1–Q3	5-19
Missing	0

Non surgical interventions	N	%
Interventional endoscopy	37	2.9
Interventional radiology	33	2.6
Interventional cardiology	9	0.7
Interventional neuroradiology	2	0.2
Missing	0	

Overall population (5 ICUs) - Year 2020**Outcome indicators - Adult patients evaluated in the GiViTI model**

ICU outcome	N	%
Dead	167	13.0
Transferred to same hospital	1061	82.7
Transferred to other hospital	50	3.9
Discharged home	5	0.4
Disch. terminally ill	0	0.0
Missing	5	

Transferred to (N=1111)	N	%
Ward	707	63.6
Other ICU	121	10.9
High dependency care unit	283	25.5
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=121)	N	%
Specialist expertise	22	18.2
Step-up care	6	5.0
Logistical/organizational reasons	81	66.9
Step-down care	12	9.9
Missing	0	

Transferred to Same hospital (N=1061)	N	%
Ward	699	65.9
Other ICU	89	8.4
High dependency care unit	273	25.7
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=50)	N	%
Ward	8	16.0
Other ICU	32	64.0
High dependency care unit	10	20.0
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	1116	87.0
Dead	167	13.0
Missing	5	

Timing of ICU mortality (N=167)	N	%
Daytime (08:00AM - 07:59PM)	93	55.7
Nighttime (08:00PM - 07:59AM)	74	44.3
Weekdays (Monday - Friday)	120	71.9
Weekend (Saturday - Sunday)	47	28.1
Missing	0	

Hospital mortality	N	%
Alive	995	77.3
Dead	293	22.7
Missing	0	

Timing of hosp. mortality (N=293)	N	%
In ICU	167	57.0
Within 24 hours after ICU	6	2.0
24-47 hours after ICU	14	4.8
48-71 hours after ICU	5	1.7
72-95 hours after ICU	4	1.4
After 95 hours after ICU	97	33.1
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=126)		
Mean		28.2
SD		46.4
Median		11
Q1–Q3		4-30.8
Missing		0

Overall population (5 ICUs) - Year 2020**Outcome indicators - Adult patients evaluated in the GiViTI model**

Last hospital mortality	N	%
Alive	982	76.2
Dead	306	23.8
Missing	0	

Readmission from ward	N	%
No	1288	100.0
Yes	0	0.0
Missing	0	

Number of readmissions (N=0)	N	%
1	0	0.0
2	0	0.0
>2	0	0.0
Missing	0	

Timing of readmission (N=0)	N	%
Within 48 hours	0	0.0
48-71 hours	0	0.0
72-95 hours	0	0.0
After 95 hours	0	0.0
Missing	0	

Timing readmission (days)	N	0
Mean		
SD		
Median		
Q1-Q3		

ICU stay (days)		
Mean		7.6
SD		10.1
Median		4
Q1-Q3		2-9
Missing		0

ICU stay (days)		
Alive (N=1116)		
Mean		7.3
SD		10.0
Median		3
Q1-Q3		2-8
Missing		0

ICU stay (days)		
Dead (N=167)		
Mean		9.7
SD		10.2
Median		6
Q1-Q3		2-14
Missing		0

Stay after ICU (days)		
Alive (N=1116)		
Mean		17.2
SD		29.3
Median		8
Q1-Q3		4-18.2
Missing		0

Hospital stay (days)		
Mean		26.8
SD		33.8
Median		16
Q1-Q3		8-31.2
Missing		0

Hospital stay (days)		
Alive (N=995)		
Mean		26.2
SD		32.5
Median		16
Q1-Q3		9-31
Missing		0

Hospital stay (days)		
Dead (N=293)		
Mean		29.0
SD		38.0
Median		17
Q1-Q3		7-36
Missing		0

Overall population (5 ICUs) - Year 2020**Characteristics on admission** - Adult non surgical patients evaluated in the GiViTI model**Patients (N): 311**

Sex	N	%
Male	208	66.9
Female	103	33.1
Missing	0	

Age (years)	N	%
17-45	35	11.3
46-65	104	33.4
66-75	75	24.1
>75	97	31.2
Missing	0	
Mean	66.2	
SD	15.7	
Median	68	
Q1–Q3	58-78	
Min–Max	19–92	

Body mass Index (BMI)	N	%
Underweight	13	4.2
Normal	108	34.7
Overweight	125	40.2
Obese	65	20.9
Missing	0	

Pregnancy status	N	%
Females (N=103)		
Not fertile	62	60.2
Not pregnant/Unknown	41	39.8
Currently pregnant	0	0.0
Post partum	0	0.0
Missing	0	

Comorbidities	N	%
No	40	12.9
Yes	271	87.1
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	165	53.1
Arrhythmia	75	24.1
NYHA class II-III	57	18.3
Metastatic cancer	48	15.4
Moderate or severe renal disease	44	14.1
Diabetes Type II without insulin tr.	38	12.2
Malignant haematological disease	38	12.2
Any tumour without metastasis	33	10.6
Endocrine-metabolic diseases	33	10.6
Drug-induced coagulopathy	30	9.6
Missing	0	

Stay before ICU (days)		
Mean	7.6	
SD	15.6	
Median	1	
Q1–Q3	0-8	
Missing	0	

Source of admission	N	%
Same hospital	264	84.9
Other hospital	47	15.1
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=311)		
Medical ward	68	21.9
Surgical ward	69	22.2
Emergency room	120	38.6
Other ICU	32	10.3
High dependency care unit	22	7.1
Missing	0	

Reason for transfer from	N	%
Other ICU (N=32)		
Specialist expertise	3	9.4
Step-up care	6	18.8
Logistical/organizational reasons	18	56.2
Step-down care	5	15.6
Missing	0	

Ward of admission	N	%
Same hospital (N=264)		
Medical ward	63	23.9
Surgical ward	65	24.6
Emergency room	111	42.0
Other ICU	11	4.2
High dependency care unit	14	5.3
Missing	0	

Ward of admission	N	%
Other hospital (N=47)		
Medical ward	5	10.6
Surgical ward	4	8.5
Emergency room	9	19.1
Other ICU	21	44.7
High dependency care unit	8	17.0
Missing	0	

Scheduled admission	N	%
No	310	99.7
Yes	1	0.3
Missing	0	

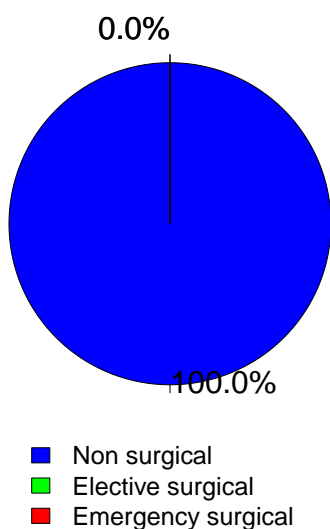
Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult non surgical patients evaluated in the GiViTI model

Trauma	N	%
No	212	68.2
Yes	99	31.8
Multiple trauma	38	12.2
Missing	0	

Surgical status	N	%
Non surgical	311	100.0
Elective surgical	0	0.0
Emergency surgical	0	0.0
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=0)		
Operating theatre of surgical ward	0	0.0
Operating theatre of emergency room	0	0.0
Surgical ward	0	0.0
Other	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Emergency surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

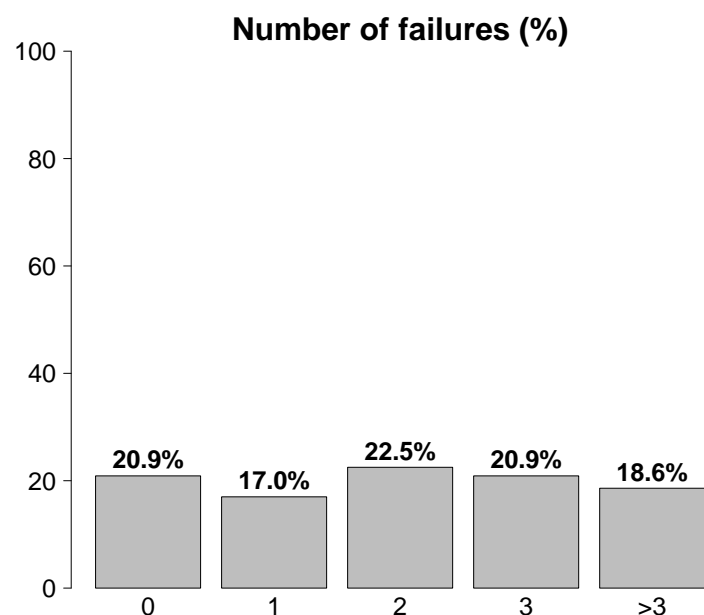
Non surgical interventions	N	%
None	280	90.0
Elective	2	0.6
Emergency	29	9.3
Missing	0	

Non surgical interventions	N	%
Elective (N=2)		
Interventional radiology	2	100.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=29)		
Interventional radiology	11	37.9
Interventional endoscopy	11	37.9
Interventional cardiology	5	17.2
Interventional neuroradiology	2	6.9
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics on admission** - Adult non surgical patients evaluated in the GiViTI model

Reason for admission	N	%
Monitoring/Weaning	93	29.9
Post surgical weaning	0	0.0
Surgical monitoring	0	0.0
Post interventional weaning	1	0.3
Interventional monitoring	11	3.6
Non surgical monitoring	79	25.6
Missing	2	
Admission for procedures/treatments	0	0.0
Intensive Treatment	218	70.1
Only ventilatory support	49	15.8
Only cardiovascular support	45	14.5
Ventilatory and cardiovascular support	124	39.9
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	65	20.9
Yes	246	79.1
A: Respiratory failure	173	55.6
B: Cardiovascular failure	169	54.3
C: Neurological failure	34	10.9
D: Hepatic failure	7	2.3
E: Renal failure	141	45.3
F: Acute skin failure	0	0.0
G: Metabolic failure	104	33.4
H: Coagulation failure	14	4.5
Missing	0	

Failures on admission (top 10)	N	%
AB	32	10.3
ABEG	30	9.6
A	25	8.0
ABE	19	6.1
E	18	5.8
BEG	17	5.5
BE	15	4.8
ABG	12	3.9
ABCEG	9	2.9
AC	6	1.9
Missing	0	

Respiratory failure	N	%
None	138	44.4
Only hypoxic failure	57	18.3
Only hypercapnic failure	14	4.5
Hypoxic-hypercapnic failure	23	7.4
Intubation for airway maint.	79	25.4
Missing	0	

Cardiovascular failure	N	%
None	142	45.7
Without shock	58	18.6
Cardiogenic shock	16	5.1
Septic shock	60	19.3
Haemorrhagic/hypovolemic shock	7	2.3
Hypovolemic shock	3	1.0
Anaphylactic shock	0	0.0
Neurogenic shock	7	2.3
Other shock	6	1.9
Mixed shock	12	3.9
Missing	0	

Neurologic failure	N	%
None	208	86.0
Cerebral coma	20	8.3
Metabolic coma	3	1.2
Postanoxic coma	9	3.7
Toxic coma	2	0.8
Missing or not evaluable	69	

Renal failure (AKIN)	N	%
None	170	54.7
Mild	58	18.6
Moderate	43	13.8
Severe	40	12.9
Missing	0	

Metabolic failure	N	%
None	207	66.6
pH \leq 7.3, PaCO ₂ $<$ 45 mmHg	28	9.0
Base deficit \geq 5 mmol/L, lactate $>$ 1.5x	76	24.4
Missing	0	

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult non surgical patients evaluated in the GiViTI model

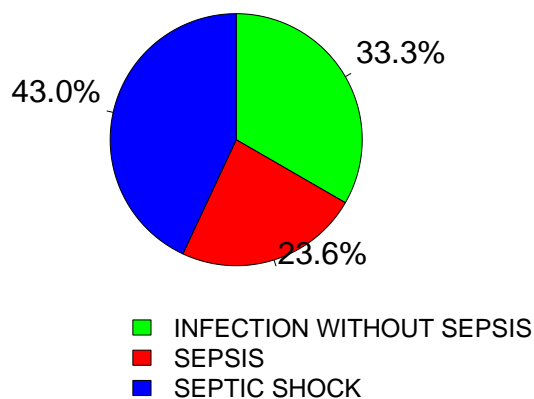
Clinical conditions on admission	N	%
Respiratory	95	30.5
Pleural effusion	34	10.9
Aspiration pneumonia	21	6.8
Atelectasis	16	5.1
Lung cancer	14	4.5
Moderate ARDS	14	4.5
Cardiovascular	79	25.4
Left heart failure with pulmonary edema	18	5.8
Acute severe arrhythmia: tachycardias	17	5.5
Cardiac arrest	15	4.8
Left heart failure without pulm. edema	14	4.5
Deep venous thrombosis	10	3.2
Neurological	59	19.0
Cerebral artery stroke	14	4.5
Neuropathy/myopathy	14	4.5
Brain tumour	13	4.2
Seizures	10	3.2
Metabolic/postanoxic encephalopathy	7	2.3
Gastrointestinal and hepatic	46	14.8
Paralytic Ileus	12	3.9
Gastrointestinal bleeding: upper tract	7	2.3
Ascites	7	2.3
Liver Dysfunction Syndrome	6	1.9
Digestive tract malignancy	5	1.6
Trauma (anatomical districts)	99	31.8
Head	64	20.6
Chest	34	10.9
Spine	21	6.8
Pelvis/bone/joint & muscle	21	6.8
Abdomen	15	4.8
Major vessels injury	7	2.3
-	0	0.0
Other	85	27.3
Other disease	39	12.5
Nephrourologic disease	30	9.6
Metabolic disorder	21	6.8
Coagulation disorder	14	4.5
Haematological disease	8	2.6
Post transplantation	3	1.0
Liver transplantation	2	0.6
Heart transplantation	1	0.3
Infections	165	53.1
Pneumonia	99	31.8
NON-surgical urinary tract infection	24	7.7
Clinical sepsis	15	4.8
NON-surgical skin/soft tissue infection	8	2.6
NON-surgical secondary peritonitis	5	1.6
Post-surgical skin/soft tissue infection	5	1.6
Cholecystitis/cholangitis	4	1.3
Gastroenteritis	4	1.3
NON-surgical bone and joint infection	3	1.0
Other fungal infections	3	1.0
Missing	0	0

Trauma (anatomical districts)	N	%
Head	64	20.6
Traumatic subarachnoid haemorrhage	42	13.5
Cerebral contusion/laceration	33	10.6
Traumatic Subdural haematoma	32	10.3
Skull fracture	31	10.0
Traumatic intraparenchymal bleeding	25	8.0
Spine	21	6.8
Vertebral fracture, without deficit	11	3.5
Cervical injury, incomplete deficit	4	1.3
Tetraplegia	4	1.3
Chest	34	10.9
Traum. haemothorax/pneumothorax	22	7.1
Other injuries of the chest	15	4.8
Severe lung contusion/laceration	14	4.5
Abdomen	15	4.8
Spleen: Moderate-Severe laceration	7	2.3
Minor injuries of the abdomen	6	1.9
Liver: Moderate-Severe laceration	4	1.3
Pelvis/bone/joint & muscle	21	6.8
Long bone fracture	18	5.8
Multiple fracture of the pelvis	3	1.0
-	0	0.0
Major vessels injury	7	2.3
Aorta: rupture/dissection	4	1.3
Neck vessels: dissection/transection	2	0.6
Major thoracic vessels: transection	1	0.3
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	0

Infection severity on admission	N	%
None	146	46.9
INFECTION WITHOUT SEPSIS	55	17.7
SEPSIS	39	12.5
SEPTIC SHOCK	71	22.8
Missing	0	0

Infection severity on admission

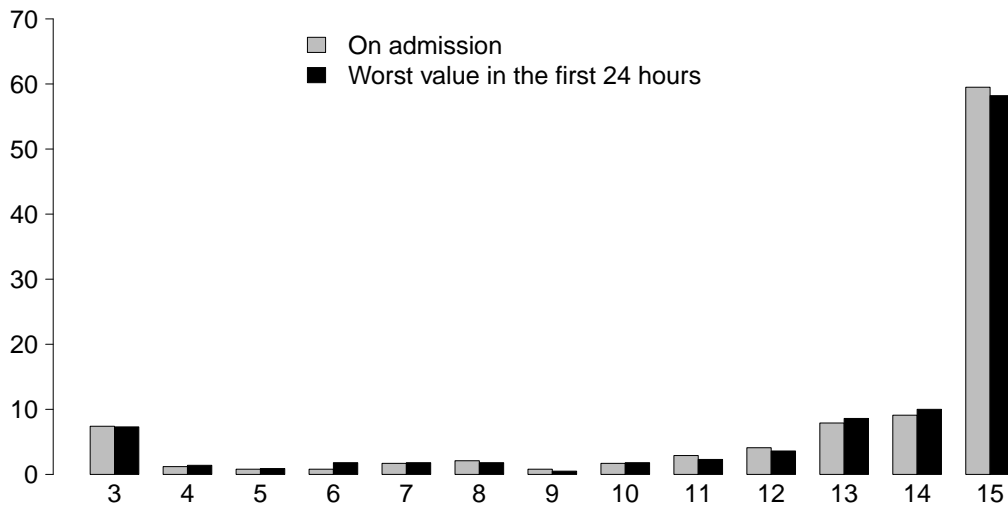
Patients infected (N=165)



Overall population (5 ICUs) - Year 2020

Severity scores - Adult non surgical patients evaluated in the GiViTI model

Glasgow Coma Scale (%)



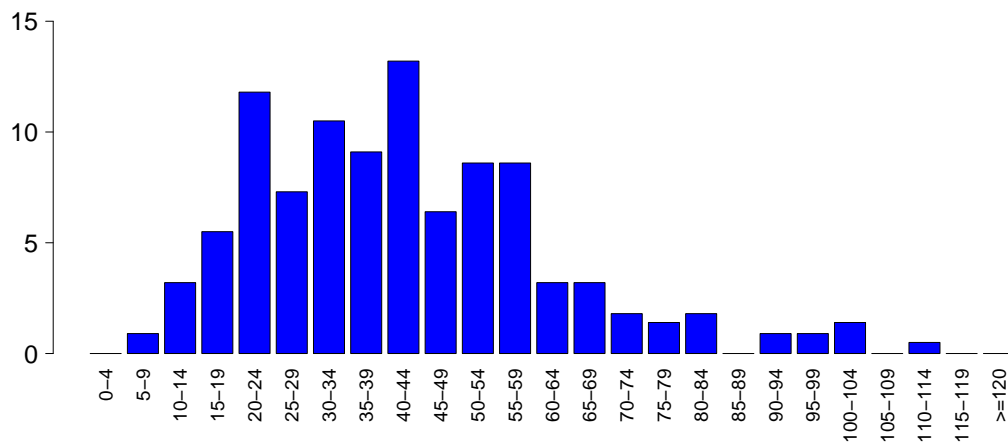
GCS (admission)

Median	15
Q1–Q3	13-15
Not evaluable	69
Missing	0

GCS (first 24 hours)

Median	15
Q1–Q3	13-15
Not evaluable	91
Missing	0

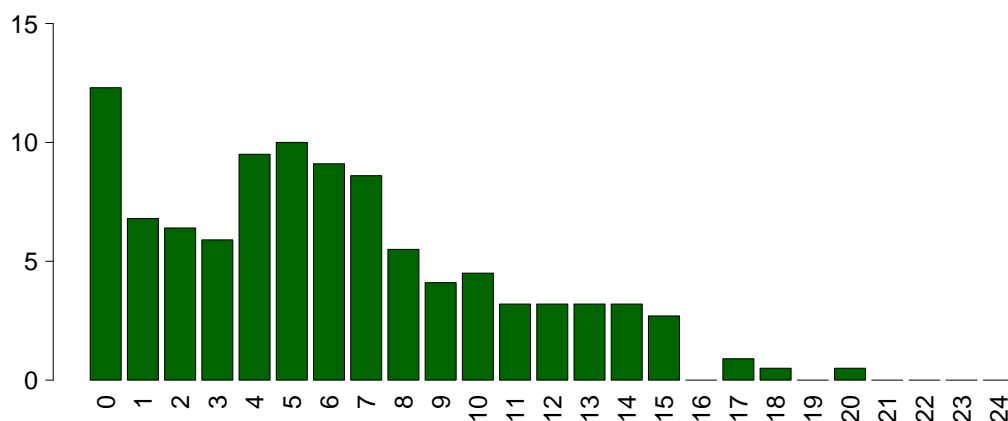
SAPS II (%)



SAPSII

Mean	42.2
SD	19.7
Median	40.5
Q1–Q3	27-54
Not evaluable	91
Missing	0

SOFA (%)



SOFA

Mean	6.0
SD	4.5
Median	5
Q1–Q3	2-9
Not evaluable	91
Missing	0

Overall population (5 ICUs) - Year 2020**Characteristics during the stay - Adult non surgical patients evaluated in the GiViTI model**

Complications during the stay	N	%
No	125	40.2
Yes	186	59.8
Missing	0	

Failures during the stay	N	%
No	221	71.1
Yes	90	28.9
A: Respiratory failure	39	12.5
B: Cardiovascular failure	36	11.6
C: Neurological failure	17	5.5
D: Hepatic failure	16	5.1
E: Renal failure (AKIN)	41	13.2
F: Acute skin failure	0	0.0
G: Metabolic failure	13	4.2
H: Coagulation failure	11	3.5
Missing	0	

Failures during the stay (top 10)	N	%
E	15	4.8
A	10	3.2
AB	8	2.6
G	7	2.3
B	6	1.9
ABE	4	1.3
C	4	1.3
ABC	3	1.0
D	3	1.0
ACE	2	0.6
Missing	0	

Respiratory failure occurred	N	%
None	272	87.5
Intubation for airway maint.	5	1.6
Hypoxic failure	29	9.3
Hypercapnic failure	14	4.5
Missing	0	

Cardiovascular failure occurred	N	%
None	275	88.4
Cardiogenic shock	7	2.3
Hypovolemic shock	2	0.6
Haemorrhagic/hypovolemic shock	3	1.0
Septic shock	17	5.5
Anaphylactic shock	0	0.0
Neurogenic shock	1	0.3
Other shock	9	2.9
Missing	0	

Neurological failure occurred	N	%
None	294	94.5
Cerebral coma	12	3.9
Metabolic coma	5	1.6
Postanoxic coma	1	0.3
Missing	0	

Renal failure occurred (AKIN)	N	%
None	270	86.8
Mild	7	2.3
Moderate	13	4.2
Severe	21	6.8
Missing	0	

Complications during the stay	N	%
Respiratory	57	18.3
Pleural effusion	23	7.4
Aspiration pneumonia	11	3.5
Atelectasis	11	3.5
Pneumothorax/Pneumomediastinum	8	2.6
Severe ARDS	5	1.6
Cardiovascular	56	18.0
Acute severe arrhythmia: tachycardias	29	9.3
Cardiac arrest	10	3.2
Pulmonary edema	9	2.9
Acute severe arrhythmia: bradycardias	8	2.6
Hypertensive crisis	3	1.0
Neurological	51	16.4
Drowsiness/agitation/delirium	38	12.2
Brain edema	9	2.9
Intracranial hypertension	6	1.9
Seizures	6	1.9
CrIMyNe	4	1.3
Gastrointestinal and hepatic	41	13.2
Paralytic Ileus	17	5.5
Liver Dysfunction Syndrome	15	4.8
Gastrointestinal bleeding: upper tract	8	2.6
Gastrointestinal perforation	5	1.6
Bowel ischaemia	4	1.3
Other	36	11.6
Other disease	16	5.1
Metabolic disorder	13	4.2
Nephrourologic disease	8	2.6
Category/Stage II: Partial Thickness Skin Loss	2	0.6
Other skin and/or soft tissue pathology	2	0.6
Category/Stage I: Nonblanchable Erythema	1	0.3
Category/Stage III: Full Thickness Skin Loss	1	0.3
Infections	72	23.2
Pneumonia	40	12.9
NON-surgical urinary tract infection	9	2.9
Other fungal infections	5	1.6
Clinical sepsis	4	1.3
L.R.T.I. other than pneumonia	4	1.3
NON-surgical skin/soft tissue infection	4	1.3
Catheter-related bacteremia (CR-BSI)	3	1.0
NON-surgical secondary peritonitis	3	1.0
Tertiary peritonitis	3	1.0
Primary bacteraemia of unknown origin	2	0.6
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics during the stay** - Adult non surgical patients evaluated in the GiViTI model

Infections				Maximum severity of infection				
	N	%		N	%		N	%
	None	105	33.8		None	105	33.8	
	Only on admission	134	43.1		INFECTION WITHOUT SEPSIS	76	24.4	
	On admission and during ICU stay	31	10.0		SEPSIS	50	16.1	
	Only during ICU stay	41	13.2		SEPTIC SHOCK	80	25.7	
	Missing	0			Missing	0		

Severity evolution

		N (R %)	During the stay				TOT
			None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	
Admission	None	105 (71.9%)	28 (19.2%)	10 (6.8%)	3 (2.1%)	146	
	INFECTION WITHOUT SEPSIS	-	48 (87.3%)	5 (9.1%)	2 (3.6%)	55	
	SEPSIS	-	-	35 (89.7%)	4 (10.3%)	39	
	SEPTIC SHOCK	-	-	-	71 (100.0%)	71	
	TOT	105	76	50	80	311	

Ventil. Associat. Pneumonia (VAP)	N	%
No	277	89.1
Yes	34	10.9
Missing	0	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	28.3
CI (95%)	19.6–39.6

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	22.7%
CI (95%)	15.7–31.7

Catheter Bacteraemia (CR-BSI)	N	%
No	308	99.0
Yes	3	1.0
Missing	0	

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	1.4
CI (95%)	0.3–4.1

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	1.7%
CI (95%)	0.3–4.9

Overall population (5 ICUs) - Year 2020
Process indicators - Adult non surgical patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	295	94.9										
Invasive ventilation	185	59.5	121	38.9	74	23.8	5	2-11	0	0	0-1	0
Non invasive ventilation	38	12.2	7	2.3	8	2.6	1	0-2	0	1	0-6	0
Tracheostomy	36	11.6	6	1.9	27	8.7	6	2-10	0	12	6-16	0
iNO (inhaled nitric oxide)	12	3.9	3	1	2	0.6	5	3-8	0	1	0-3	0
Central Venous Catheter	250	80.4	133	42.8	210	67.5	6	3-11	0	0	0-0	0
PICC	22	7.1	10	3.2	15	4.8	3	1-4	0	0	0-5	0
Arterial Catheter	278	89.4	139	44.7	126	40.5	5	2-10	0	0	0-0	0
Vasoactive drugs	209	67.2	100	32.2	54	17.4	3	1-7	0	0	0-0	0
Antiarrhythmics	48	15.4	8	2.6	17	5.5	3	1-6	0	1	0-3	0
IABP	0	0.0										
Invasive monitoring of C.O.	13	4.2	0	0	3	1	6	2-13	0	0	0-1	0
Continuous monitoring of ScVO2	0	0.0										
Temporary pacing	1	0.3	0	0	0	0	2	2-2	0	1	1-1	0
Ventricular assistance	0	0.0										
DC-shock	6	1.9								4	2-4	0
CPR	7	2.3								0	0-0	0
Massive blood transfusion	4	1.3								0	0-0	0
ICP monitoring without CSF drainage	8	2.6	7	2.3	1	0.3	9	7-15	0	0	0-0	0
ICP monitoring with CSF drainage	2	0.6	2	0.6	1	0.3	6	4-9	0	0	0-0	0
External ventricular drainage without ICP	5	1.6	3	1	3	1	11	3-14	0	4	3-6	0
Haemofiltration	0	0.0										
Haemodialysis	31	10.0	6	1.9	10	3.2	5	2-12	0	1	0-3	0
ECMO	1	0.3	0	0	0	0	14	14-14	0	1	1-1	0
Hepatic clearance techniques	0	0.0										
Clearance techniques during sepsis	1	0.3	0	0	0	0	1	1-1	0	0	0-0	0
IAP (intra-abdominal pressure)	29	9.3										
Hypothermia	6	1.9	3	1	0	0	1	1-1	0	0	0-0	0
Enteral nutrition	169	54.3	42	13.5	107	34.4	6	3-14	0	1	1-2	0
Parenteral nutrition	173	55.6	33	10.6	85	27.3	5	2-8	0	1	0-1	0
SDD (Topical, Topical and systemic)	0	0.0										
Patient restraint	12	3.9										
Peridural catheter	0	0.0										
Electrical cardioversion	1	0.3								3	3-3	0
Vacuum therapy	0	0.0										

Overall population (5 ICUs) - Year 2020
Process indicators - Adult non surgical patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	246	79.1										
Antibiotic prophylaxis	44	14.1	14	4.5	18	5.8	2	1-4	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	125	40.2	62	19.9	32	10.3	2	1-4	0	0	0-1	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	53	17.0	20	6.4	34	10.9	3	2-5	0	0	0-1	0
Targeted antibiotic therapy	142	45.7	37	11.9	92	29.6	6	3-9	0	3	2-4	0
Antifungal in empirical therapy	28	9.0	11	3.5	8	2.6	3	1-4	0	2	0-3	0
Antifungal in targeted therapy	34	10.9	8	2.6	23	7.4	7	4-10	0	3	1-5	0
Pre-emptive antifungal	4	1.3	4	1.3	4	1.3	4	3-12	0			

Antibiotic therapy

Pt. infected in ICU only (N=41)	N	%
No therapy	1	2.4
Only empirical	10	24.4
Only targeted	4	9.8
Targeted after empirical	21	51.2
Other	5	12.2
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=41)	N	%
No therapy	34	82.9
Only empirical	2	4.9
Only targeted	3	7.3
Targeted after empirical	1	2.4
Other	1	2.4
Missing	0	

Overall population (5 ICUs) - Year 2020**Process indicators** - Adult non surgical patients evaluated in the GiViTI model

			Length (days)				
Invasive ventilation (N=185)	N	%	Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	96	46.2	9.4	9.5	6	3–13.5	0
For airway maintenance	80	38.5	6.0	6.1	3.5	1–9	0
In weaning	3	1.4	1.0	0.0	1	1–1	0
Not evaluable	29	13.9	17.5	16.6	13.5	7.8–18.5	23
Reintubation within 48 hours	3	1.4	5.3	3.2	4	3.5–6.5	0

Non invasive ventilation (N=38)	N	%
Non invasive ventilation only	12	31.6
Non invasive ventilation failed	7	18.4
For weaning	16	42.1
Other	3	7.9
Missing	0	

Tracheostomy not present on admission (N=30)	N	%
Surgical	10	33.3
Percutwist	8	26.7
Ciaglia	6	20.0
Monodil. Ciaglia	0	0.0
Fantoni	0	0.0
Griggs	1	3.3
Other Kind	4	13.3
Unknown	1	3.3
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=30)	Mean	SD	Median	Q1–Q3	Missing
	11.9	7.0	11.5	6.2-14.8	0

Invasive monitoring of C.O. (N=13)	N	%
Swan Ganz	0	0.0
PICCO	12	92.3
LIDCO	1	7.7
Vigileo-PRAM	0	0.0
Other	0	0.0
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	280	90.0
Yes	31	10.0
Missing	0	

Number of surgical interventions	N	%
0	280	90.0
1	26	8.4
2	4	1.3
3	1	0.3
>3	0	0.0
Missing	0	

Surgical interventions Days from admission	Mean	SD	Median	Q1–Q3	Missing
	5.3	3.7	4	3-6	0

Surgical interventions (top 10)	N	%
Other surgery	12	3.9
Gastrointestinal surgery	9	2.9
Neurosurgery	5	1.6
ENT surgery	4	1.3
Orthopaedic surgery	4	1.3
Gynaecological surgery	1	0.3
Maxillo-Facial surgery	1	0.3
Thoracic surgery	1	0.3
-	0	0.0
-	0	0.0
Missing	0	

Non surgical interventions	N	%
No	297	95.5
Yes	14	4.5
Missing	0	

Non surgical interventions Days from admission	Mean	SD	Median	Q1–Q3	Missing
	6.5	4.9	5	3-7	0

Non surgical interventions	N	%
Interventional radiology	6	1.9
Interventional endoscopy	6	1.9
Interventional cardiology	3	1.0
Interventional neuroradiology	2	0.6
Missing	0	

Overall population (5 ICUs) - Year 2020**Outcome indicators - Adult non surgical patients evaluated in the GiViTI model**

ICU outcome	N	%
Dead	66	21.3
Transferred to same hospital	220	71.0
Transferred to other hospital	24	7.7
Discharged home	0	0.0
Disch. terminally ill	0	0.0
Missing	1	

Transferred to (N=244)	N	%
Ward	148	60.7
Other ICU	42	17.2
High dependency care unit	54	22.1
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=42)	N	%
Specialist expertise	8	19.0
Step-up care	2	4.8
Logistical/organizational reasons	28	66.7
Step-down care	4	9.5
Missing	0	

Transferred to Same hospital (N=220)	N	%
Ward	144	65.5
Other ICU	29	13.2
High dependency care unit	47	21.4
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=24)	N	%
Ward	4	16.7
Other ICU	13	54.2
High dependency care unit	7	29.2
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	244	78.7
Dead	66	21.3
Missing	1	

Timing of ICU mortality (N=66)	N	%
Daytime (08:00AM - 07:59PM)	37	56.1
Nighttime (08:00PM - 07:59AM)	29	43.9
Weekdays (Monday - Friday)	52	78.8
Weekend (Saturday - Sunday)	14	21.2
Missing	0	

Hospital mortality	N	%
Alive	190	61.1
Dead	121	38.9
Missing	0	

Timing of hosp. mortality (N=121)	N	%
In ICU	66	54.5
Within 24 hours after ICU	1	0.8
24-47 hours after ICU	5	4.1
48-71 hours after ICU	4	3.3
72-95 hours after ICU	3	2.5
After 95 hours after ICU	42	34.7
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=55)		
Mean		36.8
SD		57.5
Median		15
Q1–Q3		4-51
Missing		0

Overall population (5 ICUs) - Year 2020**Outcome indicators** - Adult non surgical patients evaluated in the GiViTI model

Last hospital mortality	N	%
Alive	187	60.1
Dead	124	39.9
Missing	0	

ICU stay (days)		
	Mean	7.8
	SD	8.6
	Median	5
	Q1–Q3	2-10
	Missing	0

ICU stay (days)		
Alive (N=244)		
	Mean	7.7
	SD	8.9
	Median	4.5
	Q1–Q3	2-10
	Missing	0

ICU stay (days)		
Dead (N=66)		
	Mean	8.0
	SD	7.9
	Median	5
	Q1–Q3	3-11
	Missing	0

Stay after ICU (days)		
Alive (N=244)		
	Mean	20.1
	SD	32.9
	Median	10
	Q1–Q3	3-24
	Missing	0

Hospital stay (days)		
	Mean	29.0
	SD	36.0
	Median	18
	Q1–Q3	8-34
	Missing	0

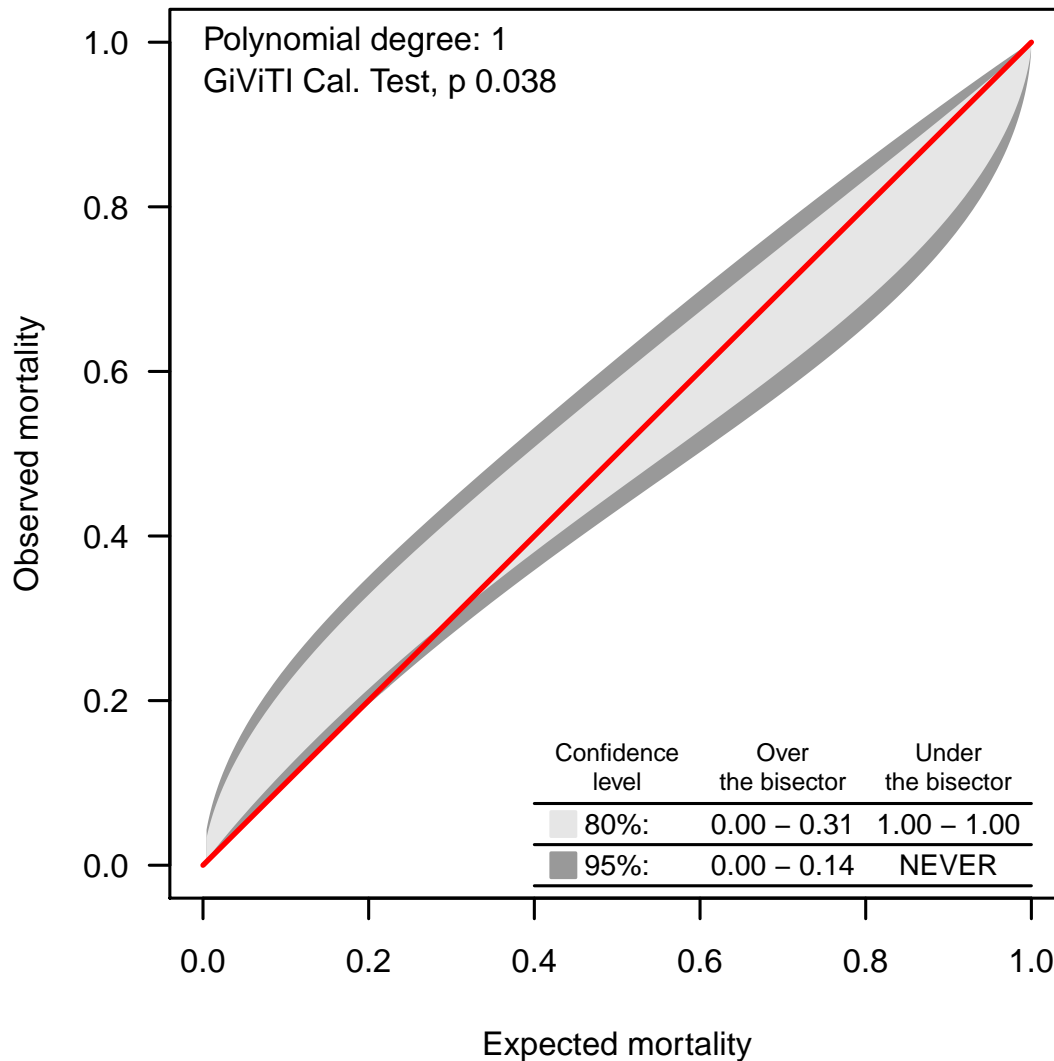
Hospital stay (days)		
Alive (N=190)		
	Mean	26.7
	SD	27.2
	Median	18.5
	Q1–Q3	8-33
	Missing	0

Hospital stay (days)		
Dead (N=121)		
	Mean	32.6
	SD	46.6
	Median	17
	Q1–Q3	7-38
	Missing	0

Overall population (5 ICUs) - Year 2020**Analysis of hospital mortality** - Adult non surgical patients evaluated in the GiViTI modelPredictive model: **GiViTI 2019**

Total patients = 311
Total expected deaths (E) = 115.3
Total observed deaths (O) = 124

Ratio O/E = 1.08
 Confidence interval O/E (95%) = (0.97,1.18)

Calibration belt

The calibration belt allows to compare the observed mortality with the expected one (predictive model: GiViTI 2019). Two different belts are presented: the 80% confidence level belt (in light gray) and the 95% confidence level belt (in dark gray). The belt above the bisector denotes an observed mortality greater than the expected one; vice versa, the belt under the bisector denotes an observed mortality lower than the expected one. As the polynomial degree increases the relation between expected and observed mortality becomes more complex. A significant GiViTI calibration test ($p < 0.05$) denotes a statistically relevant difference between observed and expected mortality. The belt is plotted in the expected mortality range values. For further informations please look at [PLoS ONE 6(2): e16110].

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult elective surgical patients evaluated in the GiViTI model

Patients (N): 482

Sex	N	%
Male	290	60.2
Female	192	39.8
Missing	0	

Age (years)	N	%
17-45	32	6.6
46-65	173	35.9
66-75	154	32.0
>75	123	25.5
Missing	0	
Mean	66.4	
SD	12.9	
Median	67	
Q1–Q3	60-76	
Min–Max	24–96	

Body mass Index (BMI)	N	%
Underweight	19	3.9
Normal	154	32.0
Overweight	183	38.0
Obese	126	26.1
Missing	0	

Pregnancy status	N	%
Females (N=192)		
Not fertile	78	40.6
Not pregnant/Unknown	114	59.4
Currently pregnant	0	0.0
Post partum	0	0.0
Missing	0	

Comorbidities	N	%
No	42	8.7
Yes	440	91.3
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	271	56.2
Any tumour without metastasis	201	41.7
Metastatic cancer	86	17.8
Arrhythmia	80	16.6
Diabetes Type II without insulin tr.	65	13.5
NYHA class II-III	54	11.2
Moderate COPD	40	8.3
Peripheral vascular disease	39	8.1
Severe malnutrition	35	7.3
Endocrine-metabolic diseases	33	6.8
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	3.7	6.3	1	1-3	0

Source of admission	N	%
Same hospital	476	98.8
Other hospital	6	1.2
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=482)		
Medical ward	10	2.1
Surgical ward	458	95.0
Emergency room	2	0.4
Other ICU	8	1.7
High dependency care unit	4	0.8
Missing	0	

Reason for transfer from	N	%
Other ICU (N=8)		
Specialist expertise	0	0.0
Step-up care	4	50.0
Logistical/organizational reasons	3	37.5
Step-down care	1	12.5
Missing	0	

Ward of admission	N	%
Same hospital (N=476)		
Medical ward	9	1.9
Surgical ward	457	96.0
Emergency room	1	0.2
Other ICU	5	1.1
High dependency care unit	4	0.8
Missing	0	

Ward of admission	N	%
Other hospital (N=6)		
Medical ward	1	16.7
Surgical ward	1	16.7
Emergency room	1	16.7
Other ICU	3	50.0
High dependency care unit	0	0.0
Missing	0	

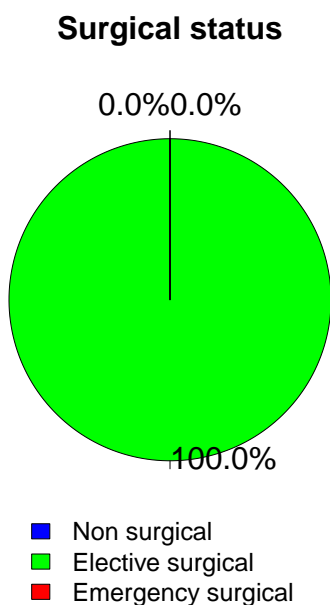
Scheduled admission	N	%
No	70	14.5
Yes	412	85.5
Missing	0	

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult elective surgical patients evaluated in the GiViTI model

Trauma	N	%
No	474	98.3
Yes	8	1.7
Multiple trauma	1	0.2
Missing	0	

Surgical status	N	%
Non surgical	0	0.0
Elective surgical	482	100.0
Emergency surgical	0	0.0
Missing	0	



Timing	N	%
Elective surgical (N=482)		
From -7 to -3 days	15	3.1
From -2 to -1 days	20	4.1
On ICU admission day	478	99.2
The day after ICU admission	9	1.9
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Emergency surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Source of admission	N	%
Surgical pt. (N=482)		
Operating theatre of surgical ward	440	91.3
Operating theatre of emergency room	1	0.2
Surgical ward	18	3.7
Other	23	4.8
Missing	0	

Non surgical interventions	N	%
None	472	97.9
Elective	5	1.0
Emergency	5	1.0
Missing	0	

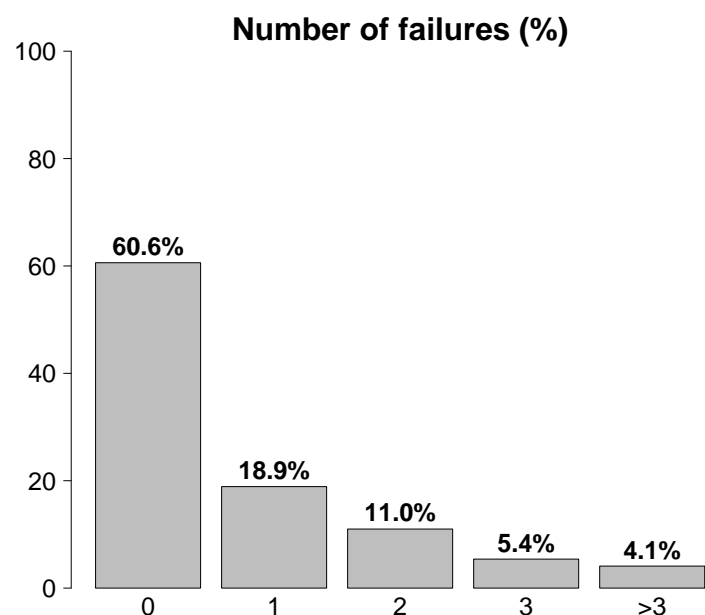
Surgical interventions (top 10)	N	%
Elective surgical (N=482)		
Gastrointestinal surgery	297	61.6
Nephro/Urological surgery	32	6.6
Other surgery	29	6.0
Hepatic surgery	27	5.6
Abdominal vascular surgery	22	4.6
Gynaecological surgery	20	4.1
Orthopaedic surgery	17	3.5
Thoracic surgery	17	3.5
Peripheral vascular surgery	14	2.9
Pancreatic surgery	9	1.9
Missing	0	

Non surgical interventions	N	%
Elective (N=5)		
Interventional radiology	1	20.0
Interventional endoscopy	1	20.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	3	

Non surgical interventions	N	%
Emergency (N=5)		
Interventional endoscopy	2	40.0
Interventional radiology	1	20.0
Interventional neuroradiology	1	20.0
Interventional cardiology	0	0.0
Missing	1	

Overall population (5 ICUs) - Year 2020**Characteristics on admission** - Adult elective surgical patients evaluated in the GiViTI model

Reason for admission	N	%
Monitoring/Weaning	378	78.4
Post surgical weaning	8	1.7
Surgical monitoring	369	76.7
Post interventional weaning	0	0.0
Interventional monitoring	0	0.0
Non surgical monitoring	0	0.0
Missing	1	
Admission for procedures/treatments	0	0.0
Intensive Treatment	104	21.6
Only ventilatory support	15	3.1
Only cardiovascular support	30	6.2
Ventilatory and cardiovascular support	59	12.2
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	292	60.6
Yes	190	39.4
A: Respiratory failure	74	15.4
B: Cardiovascular failure	89	18.5
C: Neurological failure	2	0.4
D: Hepatic failure	2	0.4
E: Renal failure	99	20.5
F: Acute skin failure	1	0.2
G: Metabolic failure	87	18.0
H: Coagulation failure	7	1.5
Missing	0	

Failures on admission (top 10)	N	%
E	38	7.9
G	27	5.6
AB	24	5.0
EG	17	3.5
ABEG	13	2.7
B	13	2.7
A	10	2.1
ABE	8	1.7
ABG	8	1.7
BEG	7	1.5
Missing	0	

Respiratory failure	N	%
None	408	84.6
Only hypoxic failure	26	5.4
Only hypercapnic failure	8	1.7
Hypoxic-hypercapnic failure	5	1.0
Intubation for airway maint.	35	7.3
Missing	0	

Cardiovascular failure	N	%
None	393	81.5
Without shock	33	6.8
Cardiogenic shock	3	0.6
Septic shock	13	2.7
Haemorrhagic/hypovolemic shock	17	3.5
Hypovolemic shock	2	0.4
Anaphylactic shock	5	1.0
Neurogenic shock	1	0.2
Other shock	8	1.7
Mixed shock	7	1.5
Missing	0	

Neurologic failure	N	%
None	452	99.6
Cerebral coma	0	0.0
Metabolic coma	0	0.0
Postanoxic coma	0	0.0
Toxic coma	2	0.4
Missing or not evaluable	28	

Renal failure (AKIN)	N	%
None	383	79.5
Mild	62	12.9
Moderate	26	5.4
Severe	11	2.3
Missing	0	

Metabolic failure	N	%
None	395	82.0
pH ≤ 7.3, PaCO ₂ < 45 mmHg	26	5.4
Base deficit ≥ 5 mmol/L, lactate > 1.5x	61	12.7
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics on admission - Adult elective surgical patients evaluated in the GiViTI model**

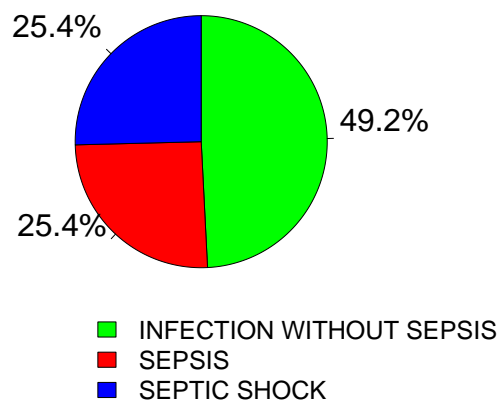
Clinical conditions on admission	N	%
Respiratory	40	8.3
Pleural effusion	17	3.5
Pneumothorax/Pneumomediastinum	7	1.5
Lung cancer	6	1.2
Atelectasis	4	0.8
Acute asthma/bronchospasm	3	0.6
Cardiovascular	62	12.9
Non-ruptured aneurysm	19	3.9
Acute severe arrhythmia: tachycardias	10	2.1
Peripheral vascular disease	9	1.9
Left heart failure without pulm. edema	6	1.2
Pulmonary hypertension	6	1.2
Neurological	17	3.5
Brain tumour	4	0.8
Non traumatic cerebral oedema	2	0.4
Metabolic/postanoxic encephalopathy	2	0.4
Seizures	2	0.4
CNS degenerative disease	2	0.4
Gastrointestinal and hepatic	288	59.8
Digestive tract malignancy	245	50.8
Hepatic malignancy	27	5.6
Intestinal occlusion	13	2.7
Pancreatic malignancy	11	2.3
Paralytic Ileus	8	1.7
Trauma (anatomical districts)	8	1.7
Pelvis/bone/joint & muscle	5	1.0
Chest	3	0.6
Spine	2	0.4
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Other	158	32.8
Other disease	98	20.3
Nephrourologic disease	33	6.8
Gynaecological disease	17	3.5
Metabolic disorder	12	2.5
Coagulation disorder	7	1.5
Post transplantation	14	2.9
Liver transplantation	9	1.9
Lung transplantation	4	0.8
Infections	63	13.1
Post-surgical peritonitis	24	5.0
Pneumonia	13	2.7
Primary peritonitis	6	1.2
Post-surgical skin/soft tissue infection	5	1.0
NON-surgical urinary tract infection	5	1.0
NON-surgical secondary peritonitis	3	0.6
NON-surgical skin/soft tissue infection	3	0.6
Post-surgical urinary tract infection	2	0.4
Cholecystitis/cholangitis	1	0.2
Clinical sepsis	1	0.2
Missing	0	

Trauma (anatomical districts)	N	%
Head	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Spine	2	0.4
Cervical injury, incomplete deficit	1	0.2
Tetraplegia	1	0.2
-	0	0.0
Chest	3	0.6
Severe lung contusion/laceration	3	0.6
Traum. haemothorax/pneumothorax	2	0.4
Flail chest	2	0.4
Abdomen	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Pelvis/bone/joint & muscle	5	1.0
Long bone fracture	5	1.0
-	0	0.0
-	0	0.0
Major vessels injury	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Miscellaneous	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	419	86.9
INFECTION WITHOUT SEPSIS	31	6.4
SEPSIS	16	3.3
SEPTIC SHOCK	16	3.3
Missing	0	

Infection severity on admission

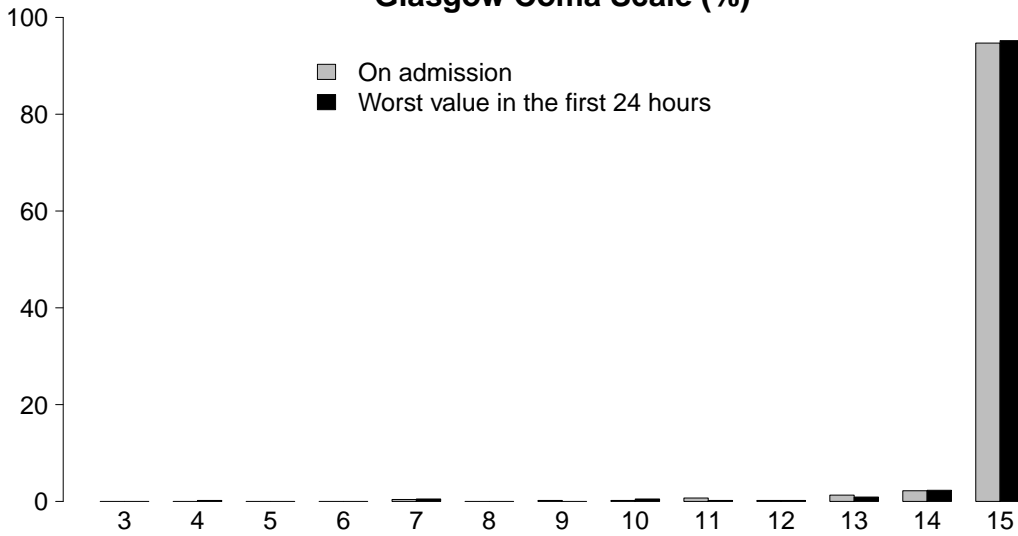
Patients infected (N=63)



Overall population (5 ICUs) - Year 2020

Severity scores - Adult elective surgical patients evaluated in the GiViTI model

Glasgow Coma Scale (%)



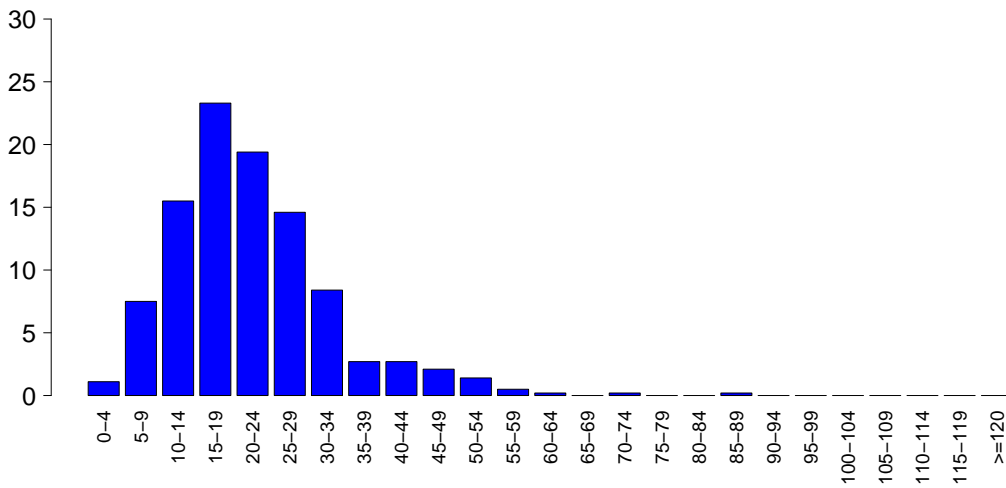
GCS (admission)

Median	15
Q1–Q3	15-15
Not evaluable	28
Missing	0

GCS (first 24 hours)

Median	15
Q1–Q3	15-15
Not evaluable	44
Missing	0

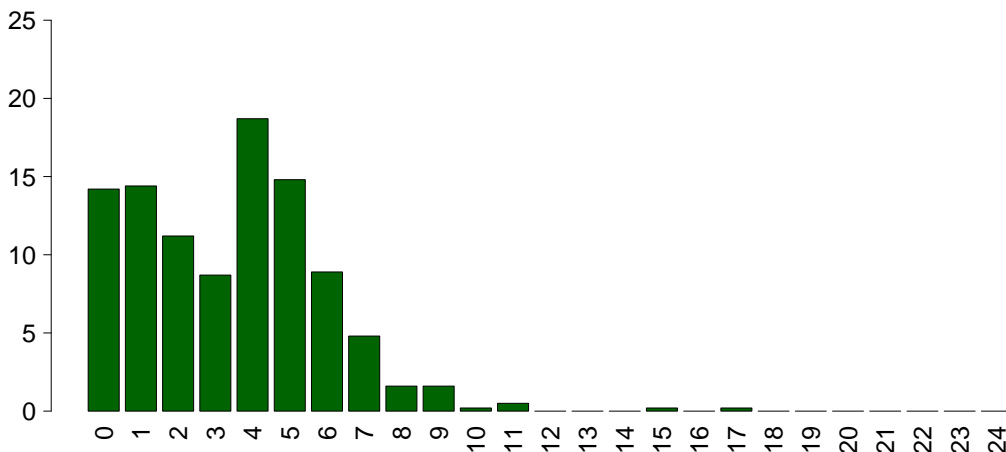
SAPS II (%)



SAPSII

Mean	21.8
SD	10.9
Median	20
Q1–Q3	15-27
Not evaluable	44
Missing	0

SOFA (%)



SOFA

Mean	3.4
SD	2.5
Median	4
Q1–Q3	1-5
Not evaluable	44
Missing	0

Overall population (5 ICUs) - Year 2020**Characteristics during the stay - Adult elective surgical patients evaluated in the GiViTI model**

Complications during the stay	N	%
No	310	64.3
Yes	172	35.7
Missing	0	

Failures during the stay	N	%
No	439	91.1
Yes	43	8.9
A: Respiratory failure	9	1.9
B: Cardiovascular failure	15	3.1
C: Neurological failure	2	0.4
D: Hepatic failure	6	1.2
E: Renal failure (AKIN)	19	3.9
F: Acute skin failure	1	0.2
G: Metabolic failure	10	2.1
H: Coagulation failure	7	1.5
Missing	0	

Failures during the stay (top 10)	N	%
E	9	1.9
B	5	1.0
G	5	1.0
D	4	0.8
A	3	0.6
BE	3	0.6
AB	2	0.4
ABEFH	1	0.2
ABG	1	0.2
ACD	1	0.2
Missing	0	

Respiratory failure occurred	N	%
None	473	98.1
Intubation for airway maint.	3	0.6
Hypoxic failure	6	1.2
Hypercapnic failure	1	0.2
Missing	0	

Cardiovascular failure occurred	N	%
None	467	96.9
Cardiogenic shock	0	0.0
Hypovolemic shock	1	0.2
Haemorrhagic/hypovolemic shock	2	0.4
Septic shock	12	2.5
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	1	0.2
Missing	0	

Neurological failure occurred	N	%
None	480	99.6
Cerebral coma	1	0.2
Metabolic coma	0	0.0
Postanoxic coma	1	0.2
Missing	0	

Renal failure occurred (AKIN)	N	%
None	463	96.1
Mild	5	1.0
Moderate	4	0.8
Severe	10	2.1
Missing	0	

Complications during the stay	N	%
Respiratory	34	7.1
Pleural effusion	18	3.7
Atelectasis	7	1.5
Aspiration pneumonia	4	0.8
Mild ARDS	3	0.6
Moderate ARDS	3	0.6
Cardiovascular	28	5.8
Acute severe arrhythmia: tachycardias	17	3.5
Acute severe arrhythmia: bradycardias	8	1.7
Pulmonary edema	4	0.8
Pulmonary hypertension	2	0.4
Cardiac arrest	1	0.2
Neurological	32	6.6
Drowsiness/agitation/delirium	27	5.6
Post-surgical intracranial bleeding	3	0.6
CriMyNe	2	0.4
Brain edema	1	0.2
Hydrocephalus	1	0.2
Gastrointestinal and hepatic	64	13.3
Paralytic Ileus	39	8.1
Anastomotic dehiscence	12	2.5
Intrabdominal bleeding	7	1.5
Liver Dysfunction Syndrome	6	1.2
Gastrointestinal bleeding: lower tract	5	1.0
Other	57	11.8
Other disease	42	8.7
Metabolic disorder	10	2.1
Nephrourologic disease	8	1.7
Iatrogenic major vessels injury	1	0.2
Other skin and/or soft tissue pathology	1	0.2
-	0	0.0
-	0	0.0
Infections	73	15.1
Post-surgical peritonitis	38	7.9
Pneumonia	14	2.9
Post-surgical skin/soft tissue infection	7	1.5
Clinical sepsis	4	0.8
L.R.T.I. other than pneumonia	3	0.6
NON-surgical urinary tract infection	3	0.6
Other fungal infections	2	0.4
NON-surgical skin/soft tissue infection	2	0.4
Post-surgical urinary tract infection	2	0.4
Artery or vein infection	1	0.2
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics during the stay** - Adult elective surgical patients evaluated in the GiViTI model

Infections				Maximum severity of infection				
	N	%		N	%		N	%
None	359	74.5	None	359	74.5	INFECTION WITHOUT SEPSIS	55	11.4
Only on admission	50	10.4	SEPSIS	41	8.5	SEPTIC SHOCK	27	5.6
On admission and during ICU stay	13	2.7	Missing	0				
Only during ICU stay	60	12.4						
Missing	0							

Severity evolution

Severity evolution		During the stay				
		N (R %)	None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK
Admission	None	359 (85.7%)	29 (6.9%)	23 (5.5%)	8 (1.9%)	419
	INFECTION WITHOUT SEPSIS	-	26 (83.9%)	3 (9.7%)	2 (6.5%)	31
	SEPSIS	-	-	15 (93.8%)	1 (6.2%)	16
	SEPTIC SHOCK	-	-	-	16 (100.0%)	16
	TOT	359	55	41	27	482

Ventil. Associat. Pneumonia (VAP)	N	%
No	472	97.9
Yes	10	2.1
Missing	0	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	25.9
CI (95%)	12.4–47.6

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	20.7%
CI (95%)	9.9–38.1

Catheter Bacteraemia (CR-BSI)	N	%
No	481	99.8
Yes	1	0.2
Missing	0	

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	0.5
CI (95%)	0.0–3.0

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	0.6%
CI (95%)	0.0–3.6

Overall population (5 ICUs) - Year 2020
Process indicators - Adult elective surgical patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	478	99.2										
Invasive ventilation	87	18.0	71	14.7	12	2.5	2	1-7	0	0	0-0	0
Non invasive ventilation	25	5.2	2	0.4	8	1.7	2	1-4	0	0	0-1	0
Tracheostomy	9	1.9	0	0	8	1.7	8	7-14	0	9	8-11	0
iNO (inhaled nitric oxide)	9	1.9	5	1	0	0	3	2-6	0	2	1-2	0
Central Venous Catheter	426	88.4	391	81.1	389	80.7	3	2-5	0	0	0-0	0
PICC	13	2.7	6	1.2	10	2.1	2	1-4	0	0	0-0	0
Arterial Catheter	388	80.5	337	69.9	59	12.2	3	2-5	0	0	0-0	0
Vasoactive drugs	292	60.6	211	43.8	14	2.9	2	1-3	0	0	0-0	0
Antiarrhythmics	17	3.5	0	0	3	0.6	1	1-2	0	1	1-4	0
IABP	0	0.0										
Invasive monitoring of C.O.	10	2.1	4	0.8	1	0.2	7	2-15	0	0	0-2	0
Continuous monitoring of ScVO2	3	0.6	3	0.6	0	0	4	4-7	0			
Temporary pacing	3	0.6	2	0.4	0	0	1	0-2	0	0	0-0	0
Ventricular assistance	0	0.0										
DC-shock	3	0.6								2	2-3	0
CPR	1	0.2								4	4-4	0
Massive blood transfusion	8	1.7								0	0-0	0
ICP monitoring without CSF drainage	0	0.0										
ICP monitoring with CSF drainage	2	0.4	2	0.4	1	0.2	17	12-22	0			
External ventricular drainage without ICP	1	0.2	0	0	1	0.2	0	0-0	0	14	14-14	0
Haemofiltration	2	0.4	0	0	0	0	8	4-11	0	0	0-1	0
Haemodialysis	12	2.5	0	0	2	0.4	4	1-11	0	4	2-7	0
ECMO	0	0.0										
Hepatic clearance techniques	0	0.0										
Clearance techniques during sepsis	1	0.2	0	0	0	0	1	1-1	0	0	0-0	0
IAP (intra-abdominal pressure)	26	5.4										
Hypothermia	0	0.0										
Enteral nutrition	183	38.0	14	2.9	157	32.6	2	1-4	0	1	1-2	0
Parenteral nutrition	268	55.6	22	4.6	228	47.3	2	1-5	0	1	1-1	0
SDD (Topical, Topical and systemic)	0	0.0										
Patient restraint	3	0.6										
Peridural catheter	198	41.1	193	40	162	33.6	2	2-4	0	0	0-0	0
Electrical cardioversion	2	0.4								0	0-1	0
Vacuum therapy	3	0.6										

Overall population (5 ICUs) - Year 2020
Process indicators - Adult elective surgical patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	443	91.9										
Antibiotic prophylaxis	365	75.7	306	63.5	112	23.2	1	0-2	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	61	12.7	20	4.1	18	3.7	2	1-4	0	1	1-2	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	64	13.3	13	2.7	51	10.6	2	1-4	0	1	1-2	0
Targeted antibiotic therapy	70	14.5	20	4.1	59	12.2	5	2-11	0	3	2-4	0
Antifungal in empirical therapy	10	2.1	0	0	7	1.5	2	1-6	0	2	0-4	0
Antifungal in targeted therapy	17	3.5	1	0.2	8	1.7	11	3-15	0	2	0-5	0
Pre-emptive antifungal	2	0.4	1	0.2	1	0.2	5	5-5	0	2	2-2	0

Antibiotic therapy

Pt. infected in ICU only (N=60)	N	%
No therapy	4	6.7
Only empirical	28	46.7
Only targeted	9	15.0
Targeted after empirical	18	30.0
Other	1	1.7
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=60)	N	%
No therapy	50	83.3
Only empirical	6	10.0
Only targeted	4	6.7
Targeted after empirical	0	0.0
Other	0	0.0
Missing	0	

Overall population (5 ICUs) - Year 2020**Process indicators** - Adult elective surgical patients evaluated in the GiViTI model

Invasive ventilation (N=87)	N	%	Length (days)				
			Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	38	33.3	8.8	10.4	3	1-15	0
For airway maintenance	33	28.9	4.5	7.0	1	0-4	0
In weaning	9	7.9	0.7	0.5	1	0-1	0
Not evaluable	34	29.8	1.6	1.6	1	1-1.5	27
Reintubation within 48 hours	0	0.0					

Non invasive ventilation (N=25)	N	%
Non invasive ventilation only	15	60.0
Non invasive ventilation failed	3	12.0
For weaning	7	28.0
Other	0	0.0
Missing	0	

Tracheostomy not present on admission (N=9)	N	%
Surgical	2	22.2
Percutwist	3	33.3
Ciaglia	1	11.1
Monodil. Ciaglia	1	11.1
Fantoni	0	0.0
Griggs	0	0.0
Other Kind	1	11.1
Unknown	1	11.1
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=9)

Mean	9.8
SD	5.5
Median	9
Q1-Q3	8-11
Missing	0

Invasive monitoring of C.O. (N=10)	N	%
Swan Ganz	3	30.0
PICCO	6	60.0
LIDCO	1	10.0
Vigileo-PRAM	0	0.0
Other	0	0.0
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	459	95.2
Yes	23	4.8
Missing	0	

Number of surgical interventions	N	%
0	459	95.2
1	14	2.9
2	5	1.0
3	2	0.4
>3	2	0.4
Missing	0	

Surgical interventions**Days from admission**

Mean	7.6
SD	5.5
Median	6
Q1-Q3	4-10
Missing	0

Surgical interventions (top 10)

	N	%
Gastrointestinal surgery	29	6.0
Other surgery	4	0.8
Neurosurgery	2	0.4
Hepatic surgery	1	0.2
Orthopaedic surgery	1	0.2
Thoracic surgery	1	0.2
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Non surgical interventions

	N	%
No	471	97.7
Yes	11	2.3
Missing	0	

Non surgical interventions**Days from admission**

Mean	7.5
SD	5.2
Median	5
Q1-Q3	4.8-9.5
Missing	0

Non surgical interventions

	N	%
Interventional radiology	5	1.0
Interventional endoscopy	4	0.8
Interventional cardiology	3	0.6
Interventional neuroradiology	0	0.0
Missing	0	

Overall population (5 ICUs) - Year 2020**Outcome indicators** - Adult elective surgical patients evaluated in the GiViTI model

ICU outcome	N	%
Dead	14	2.9
Transferred to same hospital	457	95.4
Transferred to other hospital	4	0.8
Discharged home	4	0.8
Disch. terminally ill	0	0.0
Missing	3	

Transferred to (N=461)	N	%
Ward	382	82.9
Other ICU	18	3.9
High dependency care unit	61	13.2
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=18)	N	%
Specialist expertise	3	16.7
Step-up care	0	0.0
Logistical/organizational reasons	11	61.1
Step-down care	4	22.2
Missing	0	

Transferred to Same hospital (N=457)	N	%
Ward	382	83.6
Other ICU	14	3.1
High dependency care unit	61	13.3
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=4)	N	%
Ward	0	0.0
Other ICU	4	100.0
High dependency care unit	0	0.0
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	465	97.1
Dead	14	2.9
Missing	3	

Timing of ICU mortality (N=14)	N	%
Daytime (08:00AM - 07:59PM)	8	57.1
Nighttime (08:00PM - 07:59AM)	6	42.9
Weekdays (Monday - Friday)	11	78.6
Weekend (Saturday - Sunday)	3	21.4
Missing	0	

Hospital mortality	N	%
Alive	455	94.4
Dead	27	5.6
Missing	0	

Timing of hosp. mortality (N=27)	N	%
In ICU	14	51.9
Within 24 hours after ICU	1	3.7
24-47 hours after ICU	0	0.0
48-71 hours after ICU	0	0.0
72-95 hours after ICU	0	0.0
After 95 hours after ICU	12	44.4
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=13)		
Mean		18.4
SD		19.5
Median		13
Q1–Q3		9-21
Missing		0

Overall population (5 ICUs) - Year 2020**Outcome indicators** - Adult elective surgical patients evaluated in the GiViTI model

Last hospital mortality	N	%
Alive	454	94.2
Dead	28	5.8
Missing	0	

ICU stay (days)		
	Mean	3.9
	SD	5.1
	Median	2
	Q1–Q3	1-4
	Missing	0

ICU stay (days)		
Alive (N=465)		
	Mean	3.7
	SD	4.7
	Median	2
	Q1–Q3	1-4
	Missing	0

ICU stay (days)		
Dead (N=14)		
	Mean	11.9
	SD	10.6
	Median	12
	Q1–Q3	2-19.8
	Missing	0

Stay after ICU (days)		
Alive (N=465)		
	Mean	10.6
	SD	19.1
	Median	6
	Q1–Q3	4-11
	Missing	0

Hospital stay (days)		
	Mean	18.0
	SD	21.8
	Median	12
	Q1–Q3	8-20
	Missing	0

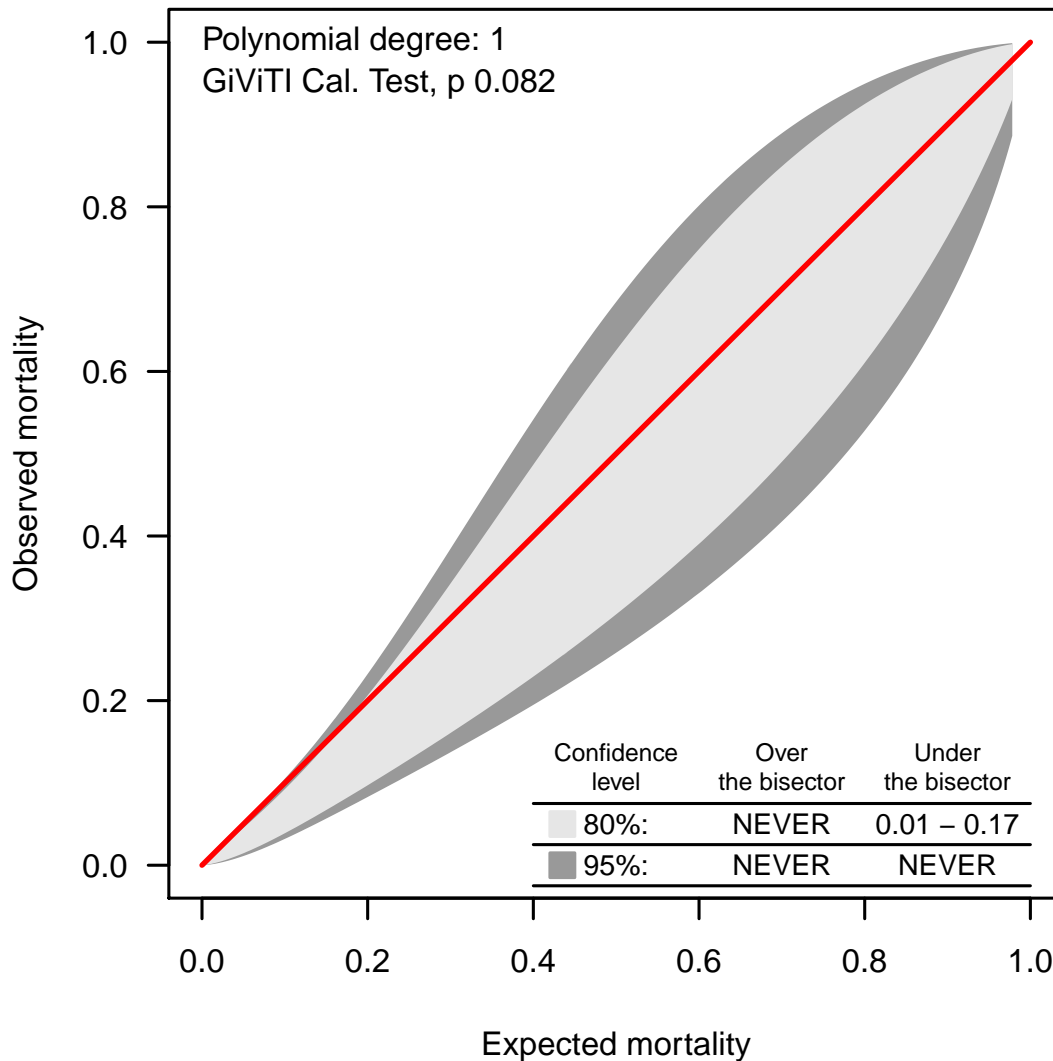
Hospital stay (days)		
Alive (N=455)		
	Mean	17.4
	SD	21.7
	Median	12
	Q1–Q3	8-19
	Missing	0

Hospital stay (days)		
Dead (N=27)		
	Mean	27.6
	SD	20.4
	Median	24
	Q1–Q3	14.5-37
	Missing	0

Overall population (5 ICUs) - Year 2020**Analysis of hospital mortality** - Adult elective surgical patients evaluated in the GiViTI modelPredictive model: **GiViTI 2019**

Total patients = 482
Total expected deaths (E) = 37.7
Total observed deaths (O) = 28

Ratio O/E = 0.74
 Confidence interval O/E (95%) = (0.48,1)

Calibration belt

The calibration belt allows to compare the observed mortality with the expected one (predictive model: GiViTI 2019). Two different belts are presented: the 80% confidence level belt (in light gray) and the 95% confidence level belt (in dark gray). The belt above the bisector denotes an observed mortality greater than the expected one; vice versa, the belt under the bisector denotes an observed mortality lower than the expected one. As the polynomial degree increases the relation between expected and observed mortality becomes more complex. A significant GiViTI calibration test ($p < 0.05$) denotes a statistically relevant difference between observed and expected mortality. The belt is plotted in the expected mortality range values. For further informations please look at [PLoS ONE 6(2): e16110].

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult emergency surgical patients evaluated in the GiViTI model

Patients (N): 495

Sex	N	%
Male	319	64.6
Female	175	35.4
Missing	1	

Age (years)	N	%
17-45	73	14.7
46-65	153	30.9
66-75	113	22.8
>75	156	31.5
Missing	0	
Mean	64.7	
SD	17.2	
Median	68	
Q1–Q3	54.5-78	
Min–Max	17–95	

Body mass Index (BMI)	N	%
Underweight	21	4.3
Normal	205	41.5
Overweight	164	33.2
Obese	104	21.1
Missing	1	

Pregnancy status	N	%
Females (N=175)		
Not fertile	94	53.7
Not pregnant/Unknown	77	44.0
Currently pregnant	0	0.0
Post partum	4	2.3
Missing	0	

Comorbidities	N	%
No	84	17.0
Yes	411	83.0
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	264	53.3
Arrhythmia	105	21.2
NYHA class II-III	83	16.8
Any tumour without metastasis	82	16.6
Diabetes Type II without insulin tr.	70	14.1
Peripheral vascular disease	56	11.3
Moderate or severe renal disease	55	11.1
Endocrine-metabolic diseases	52	10.5
Drug-induced coagulopathy	48	9.7
Metastatic cancer	41	8.3
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	4.4	11.4	1	0-4	0

Source of admission	N	%
Same hospital	463	93.5
Other hospital	32	6.5
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=495)		
Medical ward	34	6.9
Surgical ward	259	52.3
Emergency room	147	29.7
Other ICU	30	6.1
High dependency care unit	25	5.1
Missing	0	

Reason for transfer from	N	%
Other ICU (N=30)		
Specialist expertise	12	40.0
Step-up care	10	33.3
Logistical/organizational reasons	6	20.0
Step-down care	2	6.7
Missing	0	

Ward of admission	N	%
Same hospital (N=463)		
Medical ward	34	7.3
Surgical ward	252	54.4
Emergency room	130	28.1
Other ICU	22	4.8
High dependency care unit	25	5.4
Missing	0	

Ward of admission	N	%
Other hospital (N=32)		
Medical ward	0	0.0
Surgical ward	7	21.9
Emergency room	17	53.1
Other ICU	8	25.0
High dependency care unit	0	0.0
Missing	0	

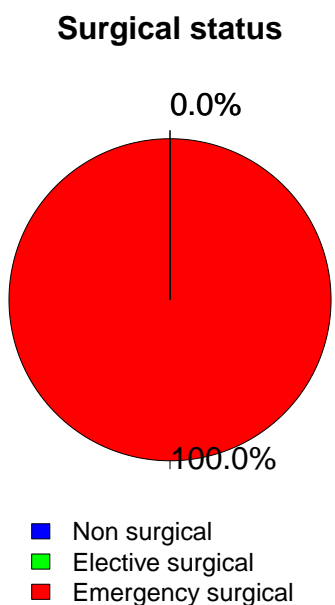
Scheduled admission	N	%
No	494	99.8
Yes	1	0.2
Missing	0	

Overall population (5 ICUs) - Year 2020

Characteristics on admission - Adult emergency surgical patients evaluated in the GiViTI model

Trauma	N	%
No	360	72.7
Yes	135	27.3
Multiple trauma	58	11.7
Missing	0	

Surgical status	N	%
Non surgical	0	0.0
Elective surgical	0	0.0
Emergency surgical	495	100.0
Missing	0	



Source of admission	N	%
Surgical pt. (N=495)		
Operating theatre of surgical ward	206	41.6
Operating theatre of emergency room	121	24.4
Surgical ward	53	10.7
Other	115	23.2
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=0)		
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=0)		
From -7 to -3 days	0	0.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=495)		
Gastrointestinal surgery	227	45.9
Neurosurgery	96	19.4
Other surgery	39	7.9
Orthopaedic surgery	35	7.1
Organ/s transplantation	19	3.8
Nephro/Urological surgery	15	3.0
Abdominal vascular surgery	15	3.0
Thoracic surgery	14	2.8
Peripheral vascular surgery	14	2.8
Hepatic surgery	11	2.2
Missing	10	

Timing	N	%
Emergency surgical (N=495)		
From -7 to -3 days	28	5.7
From -2 to -1 days	72	14.5
On ICU admission day	426	86.1
The day after ICU admission	29	5.9
Missing	1	

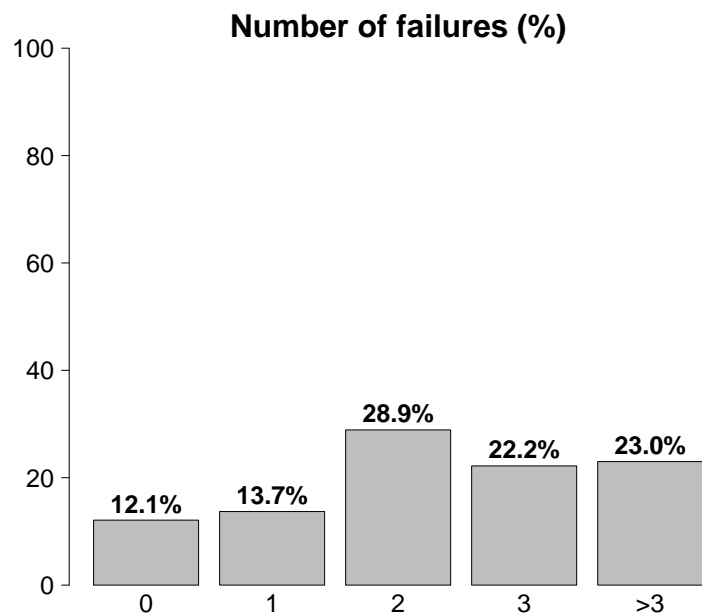
Non surgical interventions	N	%
None	473	95.6
Elective	1	0.2
Emergency	21	4.2
Missing	0	

Non surgical interventions	N	%
Elective (N=1)		
Interventional endoscopy	1	100.0
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=21)		
Interventional radiology	10	47.6
Interventional endoscopy	5	23.8
Interventional cardiology	1	4.8
Interventional neuroradiology	0	0.0
Missing	5	

Overall population (5 ICUs) - Year 2020**Characteristics on admission** - Adult emergency surgical patients evaluated in the GiViTI model

Reason for admission	N	%
Monitoring/Weaning	91	18.4
Post surgical weaning	9	1.8
Surgical monitoring	82	16.6
Post interventional weaning	0	0.0
Interventional monitoring	0	0.0
Non surgical monitoring	0	0.0
Missing	0	
Admission for procedures/treatments	0	0.0
Intensive Treatment	404	81.6
Only ventilatory support	47	9.5
Only cardiovascular support	57	11.5
Ventilatory and cardiovascular support	300	60.6
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	60	12.1
Yes	435	87.9
A: Respiratory failure	347	70.1
B: Cardiovascular failure	357	72.1
C: Neurological failure	37	7.5
D: Hepatic failure	14	2.8
E: Renal failure	227	45.9
F: Acute skin failure	3	0.6
G: Metabolic failure	151	30.5
H: Coagulation failure	32	6.5
Missing	0	

Failures on admission (top 10)	N	%
AB	99	20.0
ABEG	68	13.7
ABE	49	9.9
A	25	5.1
ABG	20	4.0
BE	19	3.8
E	19	3.8
B	18	3.6
BEG	15	3.0
ABC	13	2.6
Missing	0	

Respiratory failure	N	%
None	148	29.9
Only hypoxic failure	94	19.0
Only hypercapnic failure	17	3.4
Hypoxic-hypercapnic failure	27	5.5
Intubation for airway maint.	209	42.2
Missing	0	

Cardiovascular failure	N	%
None	138	27.9
Without shock	130	26.3
Cardiogenic shock	4	0.8
Septic shock	125	25.3
Haemorrhagic/hypovolemic shock	56	11.3
Hypovolemic shock	6	1.2
Anaphylactic shock	0	0.0
Neurogenic shock	7	1.4
Other shock	8	1.6
Mixed shock	21	4.2
Missing	0	

Neurologic failure	N	%
None	312	89.4
Cerebral coma	31	8.9
Metabolic coma	5	1.4
Postanoxic coma	1	0.3
Toxic coma	0	0.0
Missing or not evaluable	146	

Renal failure (AKIN)	N	%
None	268	54.1
Mild	108	21.8
Moderate	64	12.9
Severe	55	11.1
Missing	0	

Metabolic failure	N	%
None	344	69.5
pH ≤ 7.3, PaCO ₂ < 45 mmHg	53	10.7
Base deficit ≥ 5 mmol/L, lactate > 1.5x	98	19.8
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics on admission - Adult emergency surgical patients evaluated in the GiViTI model**

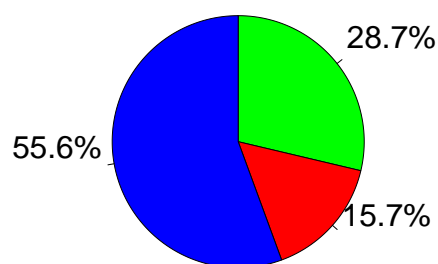
Clinical conditions on admission	N	%
Respiratory	100	20.2
Aspiration pneumonia	36	7.3
Pleural effusion	32	6.5
Atelectasis	14	2.8
Mild ARDS	9	1.8
Pneumothorax/Pneumomediastinum	8	1.6
Cardiovascular	69	13.9
Acute severe arrhythmia: tachycardias	21	4.2
Left heart failure without pulm. edema	18	3.6
Pulmonary hypertension	11	2.2
Peripheral vascular disease	10	2.0
Cardiac arrest	9	1.8
Neurological	29	5.9
Brain tumour	7	1.4
Spontaneous Intraparenchymal bleeding	6	1.2
Non traumatic cerebral oedema	5	1.0
Intracranial hypertension	4	0.8
Seizures	3	0.6
Gastrointestinal and hepatic	204	41.2
Gastrointestinal perforation	59	11.9
Intestinal occlusion	57	11.5
Digestive tract malignancy	39	7.9
Paralytic Ileus	35	7.1
Bowel ischaemia	26	5.3
Trauma (anatomical districts)	135	27.3
Head	87	17.6
Chest	48	9.7
Spine	39	7.9
Pelvis/bone/joint & muscle	35	7.1
Abdomen	22	4.4
Major vessels injury	10	2.0
Miscellaneous	1	0.2
Other	116	23.4
Other disease	38	7.7
Nephrourologic disease	35	7.1
Coagulation disorder	32	6.5
Metabolic disorder	20	4.0
Haematological disease	11	2.2
Post transplantation	29	5.9
Liver transplantation	14	2.8
Lung transplantation	9	1.8
Infections	261	52.7
Pneumonia	83	16.8
NON-surgical secondary peritonitis	54	10.9
Post-surgical peritonitis	38	7.7
Clinical sepsis	24	4.8
NON-surgical skin/soft tissue infection	24	4.8
Primary peritonitis	17	3.4
Cholecystitis/cholangitis	13	2.6
Post-surgical skin/soft tissue infection	11	2.2
NON-surgical urinary tract infection	9	1.8
Tertiary peritonitis	5	1.0
Missing	0	

Trauma (anatomical districts)	N	%
Head	87	17.6
Traumatic Subdural haematoma	59	11.9
Traumatic subarachnoid haemorrhage	54	10.9
Skull fracture	46	9.3
Cerebral contusion/laceration	41	8.3
Maxillofacial fracture	35	7.1
Spine	39	7.9
Vertebral fracture, without deficit	24	4.8
Tetraplegia	8	1.6
Lumbar injury, incomplete deficit	3	0.6
Chest	48	9.7
Traum. haemothorax/pneumothorax	27	5.5
Other injuries of the chest	26	5.3
Severe lung contusion/laceration	19	3.8
Abdomen	22	4.4
Minor injuries of the abdomen	7	1.4
Bowel transection/perforation	6	1.2
Liver: Moderate-Severe laceration	6	1.2
Pelvis/bone/joint & muscle	35	7.1
Long bone fracture	28	5.7
Multiple fracture of the pelvis	5	1.0
Massive crush/amputation	4	0.8
Major vessels injury	10	2.0
Proximal limbs vessels: transection	4	0.8
Major abdominal vessels: transection	3	0.6
Neck vessels: dissection/transection	2	0.4
Miscellaneous	1	0.2
Inhalation injury	1	0.2
-	0	0.0
Missing	0	

Infection severity on admission	N	%
None	234	47.3
INFECTION WITHOUT SEPSIS	75	15.2
SEPSIS	41	8.3
SEPTIC SHOCK	145	29.3
Missing	0	

Infection severity on admission

Patients infected (N=261)

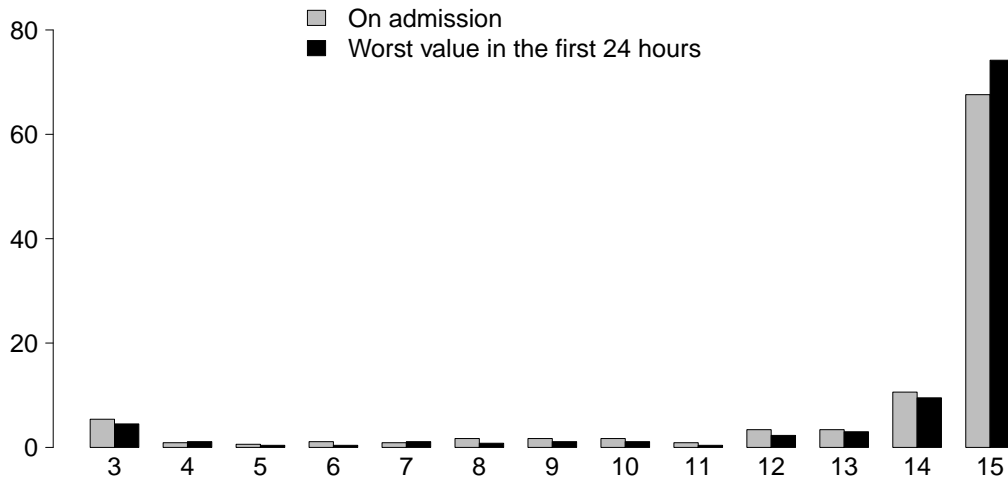


■ INFECTION WITHOUT SEPSIS
■ SEPSIS
■ SEPTIC SHOCK

Overall population (5 ICUs) - Year 2020

Severity scores - Adult emergency surgical patients evaluated in the GiViTI model

Glasgow Coma Scale (%)



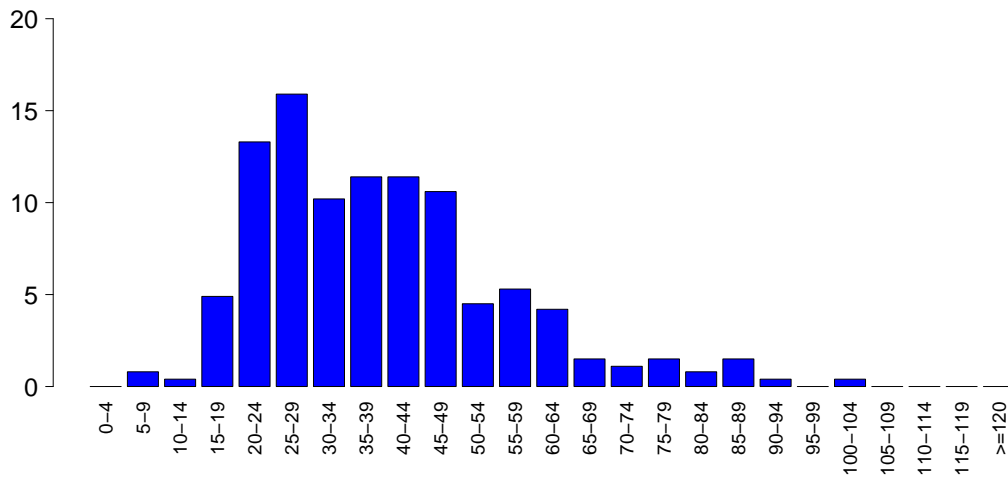
GCS (admission)

Median	15
Q1–Q3	14-15
Not evaluable	146
Missing	0

GCS (first 24 hours)

Median	15
Q1–Q3	14-15
Not evaluable	231
Missing	0

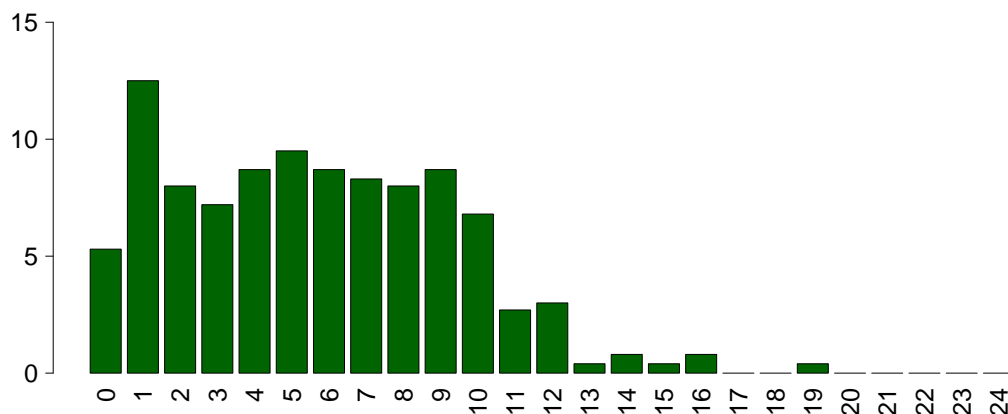
SAPS II (%)



SAPSII

Mean	39.0
SD	16.9
Median	37
Q1–Q3	26-48
Not evaluable	231
Missing	0

SOFA (%)



SOFA

Mean	5.6
SD	3.7
Median	5
Q1–Q3	2-8
Not evaluable	231
Missing	0

Overall population (5 ICUs) - Year 2020**Characteristics during the stay - Adult emergency surgical patients evaluated in the GiViTI model**

Complications during the stay	N	%
No	177	35.8
Yes	318	64.2
Missing	0	

Failures during the stay	N	%
No	332	67.1
Yes	163	32.9
A: Respiratory failure	51	10.3
B: Cardiovascular failure	57	11.5
C: Neurological failure	23	4.6
D: Hepatic failure	28	5.7
E: Renal failure (AKIN)	93	18.8
F: Acute skin failure	1	0.2
G: Metabolic failure	48	9.7
H: Coagulation failure	21	4.2
Missing	0	

Failures during the stay (top 10)	N	%
E	30	6.1
G	21	4.2
AE	12	2.4
B	12	2.4
A	11	2.2
BE	8	1.6
AB	5	1.0
DEG	5	1.0
ABCE	4	0.8
D	4	0.8
Missing	0	

Respiratory failure occurred	N	%
None	444	89.7
Intubation for airway maint.	7	1.4
Hypoxic failure	36	7.3
Hypercapnic failure	17	3.4
Missing	0	

Cardiovascular failure occurred	N	%
None	438	88.5
Cardiogenic shock	14	2.8
Hypovolemic shock	3	0.6
Haemorrhagic/hypovolemic shock	7	1.4
Septic shock	35	7.1
Anaphylactic shock	1	0.2
Neurogenic shock	0	0.0
Other shock	3	0.6
Missing	0	

Neurological failure occurred	N	%
None	472	95.4
Cerebral coma	11	2.2
Metabolic coma	12	2.4
Postanoxic coma	4	0.8
Missing	0	

Renal failure occurred (AKIN)	N	%
None	402	81.2
Mild	20	4.0
Moderate	23	4.6
Severe	50	10.1
Missing	0	

Complications during the stay	N	%
Respiratory	115	23.2
Pleural effusion	48	9.7
Aspiration pneumonia	31	6.3
Atelectasis	30	6.1
Moderate ARDS	13	2.6
Pneumothorax/Pneumomediastinum	10	2.0
Cardiovascular	89	18.0
Acute severe arrhythmia: tachycardias	50	10.1
Deep venous thrombosis	21	4.2
Cardiac arrest	12	2.4
Pulmonary edema	9	1.8
Left heart failure w/o pulm. edema	7	1.4
Neurological	95	19.2
Drowsiness/agitation/delirium	60	12.1
Brain edema	23	4.6
Intracranial hypertension	14	2.8
CrIMyNe	13	2.6
New ischaemic stroke	9	1.8
Gastrointestinal and hepatic	113	22.8
Paralytic Ileus	57	11.5
Liver Dysfunction Syndrome	22	4.4
Gastrointestinal perforation	21	4.2
Bowel ischaemia	18	3.6
Ascites	14	2.8
Other	90	18.2
Metabolic disorder	48	9.7
Nephrourologic disease	28	5.7
Other disease	27	5.5
Other skin and/or soft tissue pathology	7	1.4
Category/Stage II: Partial Thickness Skin Loss	4	0.8
Blunt cerebral vessels trauma	2	0.4
Delayed spleen rupture	2	0.4
Infections	156	31.5
Pneumonia	93	18.8
Post-surgical peritonitis	19	3.8
Post-surgical skin/soft tissue infection	17	3.4
NON-surgical urinary tract infection	17	3.4
Clinical sepsis	9	1.8
Other fungal infections	9	1.8
L.R.T.I. other than pneumonia	6	1.2
NON-surgical secondary peritonitis	6	1.2
Tertiary peritonitis	6	1.2
Cholecystitis/cholangitis	5	1.0
Missing	0	

Overall population (5 ICUs) - Year 2020**Characteristics during the stay** - Adult emergency surgical patients evaluated in the GiViTI model

Infections		N	%	Maximum severity of infection		N	%
	None	151	30.5		None	151	30.5
	Only on admission	188	38.0		INFECTION WITHOUT SEPSIS	122	24.6
	On admission and during ICU stay	73	14.7		SEPSIS	60	12.1
	Only during ICU stay	83	16.8		SEPTIC SHOCK	162	32.7
	Missing	0			Missing	0	

Severity evolution

		N (R %)	During the stay				TOT
			None	INFECTION WITHOUT SEPSIS	SEPSIS	SEPTIC SHOCK	
Admission	None	151 (64.5%)	53 (22.6%)	17 (7.3%)	13 (5.6%)	234	
	INFECTION WITHOUT SEPSIS	-	69 (92.0%)	5 (6.7%)	1 (1.3%)	75	
	SEPSIS	-	-	38 (92.7%)	3 (7.3%)	41	
	SEPTIC SHOCK	-	-	-	145 (100.0%)	145	
	TOT	151	122	60	162	495	

Ventil. Associat. Pneumonia (VAP)	N	%
No	408	82.4
Yes	87	17.6
Missing	0	

Catheter Bacteraemia (CR-BSI)	N	%
No	494	99.8
Yes	1	0.2
Missing	0	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	32.1
CI (95%)	25.7–39.5

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	0.2
CI (95%)	0.0–1.1

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	25.6%
CI (95%)	20.5–31.6

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	0.2%
CI (95%)	0.0–1.3

Overall population (5 ICUs) - Year 2020
Process indicators - Adult emergency surgical patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	493	99.6										
Invasive ventilation	368	74.3	308	62.2	72	14.5	5	2-14	0	0	0-1	0
Non invasive ventilation	61	12.3	6	1.2	23	4.6	2	1-4	0	4	0-10	0
Tracheostomy	72	14.5	5	1	54	10.9	8	3-18	0	15	10-23	0
iNO (inhaled nitric oxide)	24	4.8	10	2	0	0	3	2-6	0	4	0-8	0
Central Venous Catheter	440	88.9	354	71.5	336	67.9	7	3-15	0	0	0-0	0
PICC	41	8.3	11	2.2	26	5.3	3	1-6	0	2	0-16	0
Arterial Catheter	469	94.7	371	74.9	226	45.7	6	3-14	0	0	0-0	0
Vasoactive drugs	407	82.2	298	60.2	42	8.5	3	1-9	0	0	0-0	0
Antiarrhythmics	71	14.3	12	2.4	18	3.6	2	1-5	0	3	1-8	0
IABP	0	0.0										
Invasive monitoring of C.O.	30	6.1	10	2	5	1	4	3-8	0	1	0-3	0
Continuous monitoring of ScVO2	4	0.8	3	0.6	0	0	2	2-3	0	2	2-2	0
Temporary pacing	0	0.0										
Ventricular assistance	0	0.0										
DC-shock	15	3.0								2	2-4	0
CPR	8	1.6								0	0-3	0
Massive blood transfusion	6	1.2								0	0-0	0
ICP monitoring without CSF drainage	69	13.9	62	12.5	6	1.2	7	3-14	0	0	0-0	0
ICP monitoring with CSF drainage	10	2.0	5	1	5	1	18	11-22	0	5	2-14	0
External ventricular drainage without ICP	7	1.4	4	0.8	2	0.4	7	4-14	0	4	4-14	0
Haemofiltration	1	0.2	0	0	0	0	3	3-3	0	1	1-1	0
Haemodialysis	56	11.3	16	3.2	17	3.4	5	1-15	0	4	1-7	0
ECMO	1	0.2	1	0.2	0	0	2	2-2	0			
Hepatic clearance techniques	1	0.2										
Clearance techniques during sepsis	3	0.6	0	0	1	0.2	1	0-1	0	1	1-3	0
IAP (intra-abdominal pressure)	109	22.0										
Hypothermia	10	2.0	4	0.8	0	0	1	1-2	0	0	0-1	0
Enteral nutrition	292	59.0	17	3.4	171	34.5	8	3-17	0	1	1-2	0
Parenteral nutrition	336	67.9	44	8.9	152	30.7	4	2-11	0	1	1-2	0
SDD (Topical, Topical and systemic)	0	0.0										
Patient restraint	16	3.2										
Peridural catheter	3	0.6	3	0.6	2	0.4	4	2-5	0	2	2-5	0
Electrical cardioversion	5	1.0										
Vacuum therapy	21	4.2										

Overall population (5 ICUs) - Year 2020
Process indicators - Adult emergency surgical patients evaluated in the GiViTI model

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	474	95.8										
Antibiotic prophylaxis	145	29.3	102	20.6	42	8.5	2	1-3	0	0	0-0	0
Empirical antibiotic therapy (infection diagnosis confirmed)	221	44.6	136	27.5	38	7.7	3	2-5	0	0	0-2	0
Empirical antibiotic therapy (infection diagnosis unconfirmed)	93	18.8	47	9.5	70	14.1	4	2-5	0	0	0-1	0
Targeted antibiotic therapy	240	48.5	46	9.3	153	30.9	9	4-17	0	3	2-5	0
Antifungal in empirical therapy	41	8.3	13	2.6	9	1.8	5	3-11	0	1	0-6	0
Antifungal in targeted therapy	54	10.9	10	2	32	6.5	12	7-23	0	6	2-12	0
Pre-emptive antifungal	6	1.2	4	0.8	2	0.4	5	5-8	0	16	15-16	0

Antibiotic therapy

Pt. infected in ICU only (N=83)	N	%
No therapy	2	2.4
Only empirical	15	18.1
Only targeted	15	18.1
Targeted after empirical	42	50.6
Other	9	10.8
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=83)	N	%
No therapy	67	80.7
Only empirical	4	4.8
Only targeted	8	9.6
Targeted after empirical	3	3.6
Other	1	1.2
Missing	0	

Overall population (5 ICUs) - Year 2020**Process indicators** - Adult emergency surgical patients evaluated in the GiViTI model
Length (days)

Invasive ventilation (N=368)	N	%	Mean	SD	Median	Q1-Q3	Missing
Due to pulmonary failure	145	35.2	10.3	13.6	5	2–13	0
For airway maintenance	202	49.0	10.0	10.7	6	2–15	0
In weaning	9	2.2	0.6	0.5	1	0–1	0
Not evaluable	56	13.6	5.8	10.5	1	0.8–7.2	44
Reintubation within 48 hours	7	1.7	4.0	2.4	3	2.5–5.5	0

Non invasive ventilation (N=61)	N	%
Non invasive ventilation only	15	24.6
Non invasive ventilation failed	8	13.1
For weaning	31	50.8
Other	7	11.5
Missing	0	

Tracheostomy not present on admission (N=67)	N	%
Surgical	13	19.4
Percutwist	21	31.3
Ciaglia	17	25.4
Monodil. Ciaglia	1	1.5
Fantoni	0	0.0
Griggs	4	6.0
Other Kind	5	7.5
Unknown	6	9.0
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=67)

Mean	17.0
SD	9.9
Median	15
Q1–Q3	10-22.5
Missing	0

Invasive monitoring of C.O. (N=30)	N	%
Swan Ganz	4	13.3
PICCO	24	80.0
LIDCO	1	3.3
Vigileo-PRAM	0	0.0
Other	1	3.3
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	393	79.4
Yes	102	20.6
Missing	0	

Number of surgical interventions	N	%
0	393	79.4
1	51	10.3
2	27	5.5
3	9	1.8
>3	15	3.0
Missing	0	

Surgical interventions Days from admission

Mean	10.8
SD	10.2
Median	7
Q1–Q3	4-14
Missing	0

Surgical interventions (top 10)	N	%
Gastrointestinal surgery	119	24.0
Neurosurgery	22	4.4
Other surgery	20	4.0
Orthopaedic surgery	10	2.0
Thoracic surgery	10	2.0
Nephro/Urological surgery	6	1.2
ENT surgery	5	1.0
Maxillo-Facial surgery	4	0.8
Hepatic surgery	1	0.2
Plastic surgery	1	0.2
Missing	0	

Non surgical interventions	N	%
No	453	91.5
Yes	42	8.5
Missing	0	

Non surgical interventions Days from admission

Mean	16.3
SD	11.1
Median	12
Q1–Q3	9-22.5
Missing	0

Non surgical interventions	N	%
Interventional endoscopy	27	5.5
Interventional radiology	22	4.4
Interventional cardiology	3	0.6
Interventional neuroradiology	0	0.0
Missing	0	

Overall population (5 ICUs) - Year 2020**Outcome indicators - Adult emergency surgical patients evaluated in the GiViTI model**

ICU outcome	N	%
Dead	87	17.6
Transferred to same hospital	384	77.7
Transferred to other hospital	22	4.5
Discharged home	1	0.2
Disch. terminally ill	0	0.0
Missing	1	

Transferred to (N=406)	N	%
Ward	177	43.6
Other ICU	61	15.0
High dependency care unit	168	41.4
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=61)	N	%
Specialist expertise	11	18.0
Step-up care	4	6.6
Logistical/organizational reasons	42	68.9
Step-down care	4	6.6
Missing	0	

Transferred to Same hospital (N=384)	N	%
Ward	173	45.1
Other ICU	46	12.0
High dependency care unit	165	43.0
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=22)	N	%
Ward	4	18.2
Other ICU	15	68.2
High dependency care unit	3	13.6
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	407	82.4
Dead	87	17.6
Missing	1	

Timing of ICU mortality (N=87)	N	%
Daytime (08:00AM - 07:59PM)	48	55.2
Nighttime (08:00PM - 07:59AM)	39	44.8
Weekdays (Monday - Friday)	57	65.5
Weekend (Saturday - Sunday)	30	34.5
Missing	0	

Hospital mortality	N	%
Alive	350	70.7
Dead	145	29.3
Missing	0	

Timing of hosp. mortality (N=145)	N	%
In ICU	87	60.0
Within 24 hours after ICU	4	2.8
24-47 hours after ICU	9	6.2
48-71 hours after ICU	1	0.7
72-95 hours after ICU	1	0.7
After 95 hours after ICU	43	29.7
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=58)		
Mean		22.2
SD		37.2
Median		10
Q1–Q3		3.2-19.2
Missing		0

Overall population (5 ICUs) - Year 2020**Outcome indicators** - Adult emergency surgical patients evaluated in the GiViTI model

Last hospital mortality	N	%
Alive	341	68.9
Dead	154	31.1
Missing	0	

ICU stay (days)		
	Mean	11.0
	SD	13.0
	Median	6
	Q1–Q3	2-15
	Missing	0

ICU stay (days)		
Alive (N=407)		
	Mean	11.1
	SD	13.3
	Median	6
	Q1–Q3	3-15.5
	Missing	0

ICU stay (days)		
Dead (N=87)		
	Mean	10.7
	SD	11.6
	Median	8
	Q1–Q3	2-14.5
	Missing	0

Stay after ICU (days)		
Alive (N=407)		
	Mean	23.2
	SD	34.7
	Median	12
	Q1–Q3	5-25
	Missing	0

Hospital stay (days)		
	Mean	34.1
	SD	39.7
	Median	21
	Q1–Q3	12-41
	Missing	0

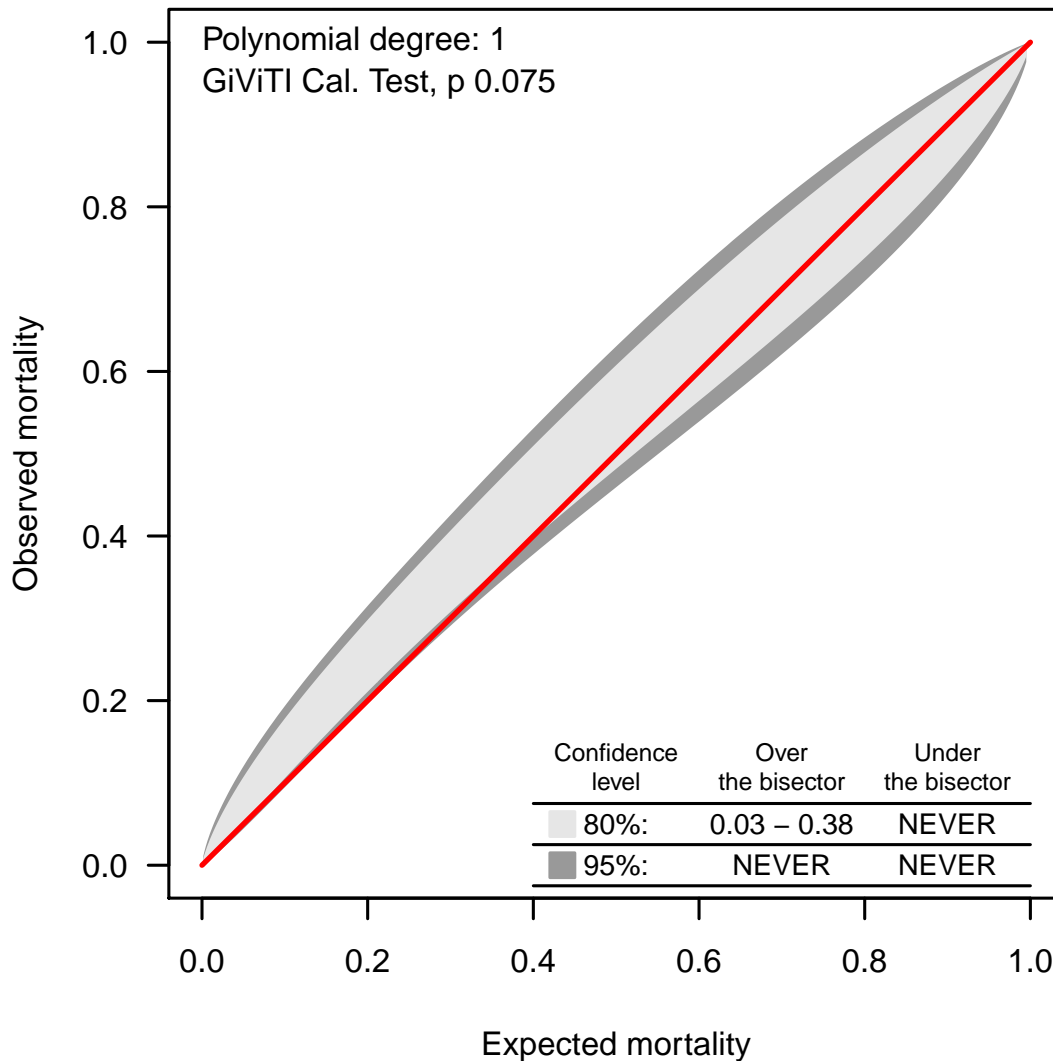
Hospital stay (days)		
Alive (N=350)		
	Mean	37.3
	SD	42.0
	Median	23
	Q1–Q3	14-42.8
	Missing	0

Hospital stay (days)		
Dead (N=145)		
	Mean	26.2
	SD	32.0
	Median	16
	Q1–Q3	6-34
	Missing	0

Overall population (5 ICUs) - Year 2020**Analysis of hospital mortality** - Adult emergency surgical patients evaluated in the GiViTI modelPredictive model: **GiViTI 2019**

Total patients = 495
Total expected deaths (E) = 137.8
Total observed deaths (O) = 154

Ratio O/E = 1.12
 Confidence interval O/E (95%) = (1.01,1.23)

Calibration belt

The calibration belt allows to compare the observed mortality with the expected one (predictive model: GiViTI 2019). Two different belts are presented: the 80% confidence level belt (in light gray) and the 95% confidence level belt (in dark gray). The belt above the bisector denotes an observed mortality greater than the expected one; vice versa, the belt under the bisector denotes an observed mortality lower than the expected one. As the polynomial degree increases the relation between expected and observed mortality becomes more complex. A significant GiViTI calibration test ($p < 0.05$) denotes a statistically relevant difference between observed and expected mortality. The belt is plotted in the expected mortality range values. For further informations please look at [PLoS ONE 6(2): e16110].

Overall population (3 ICUs) - Year 2020

Characteristics on admission - COVID adult patients

Patients (N): 21

Sex	N	%
Male	14	66.7
Female	7	33.3
Missing	0	

Age (years)	N	%
17-45	2	9.5
46-65	7	33.3
66-75	2	9.5
>75	10	47.6
Missing	0	
Mean	68.0	
SD	14.5	
Median	68	
Q1–Q3	60-79	
Min–Max	34–89	

Body mass Index (BMI)	N	%
Underweight	0	0.0
Normal	7	33.3
Overweight	6	28.6
Obese	8	38.1
Missing	0	

Pregnancy status	N	%
Females (N=7)		
Not fertile	4	57.1
Not pregnant/Unknown	3	42.9
Currently pregnant	0	0.0
Post partum	0	0.0
Missing	0	

Comorbidities	N	%
No	1	4.8
Yes	20	95.2
Missing	0	

Comorbidities (top 10)	N	%
Hypertension	15	71.4
Arrhythmia	9	42.9
Diabetes Type II with insulin treatment	5	23.8
Any tumour without metastasis	4	19.0
Coagulation disorder	4	19.0
Diabetes Type II without insulin tr.	4	19.0
Moderate COPD	4	19.0
Antiplatelet therapy	3	14.3
Asthma	3	14.3
Dementia	3	14.3
Missing	0	

Stay before ICU (days)	Mean	SD	Median	Q1–Q3	Missing
	15.3	22.0	5	0-25	0

Source of admission	N	%
Same hospital	17	81.0
Other hospital	4	19.0
Long-term chronic care hospital	0	0.0
Directly from the community	0	0.0
Missing	0	

Ward of admission	N	%
Hospital (N=21)		
Medical ward	2	9.5
Surgical ward	4	19.0
Emergency room	4	19.0
Other ICU	9	42.9
High dependency care unit	2	9.5
Missing	0	

Reason for transfer from	N	%
Other ICU (N=9)		
Specialist expertise	7	77.8
Step-up care	0	0.0
Logistical/organizational reasons	2	22.2
Step-down care	0	0.0
Missing	0	

Ward of admission	N	%
Same hospital (N=17)		
Medical ward	2	11.8
Surgical ward	4	23.5
Emergency room	3	17.6
Other ICU	6	35.3
High dependency care unit	2	11.8
Missing	0	

Ward of admission	N	%
Other hospital (N=4)		
Medical ward	0	0.0
Surgical ward	0	0.0
Emergency room	1	25.0
Other ICU	3	75.0
High dependency care unit	0	0.0
Missing	0	

Scheduled admission	N	%
No	21	100.0
Yes	0	0.0
Missing	0	

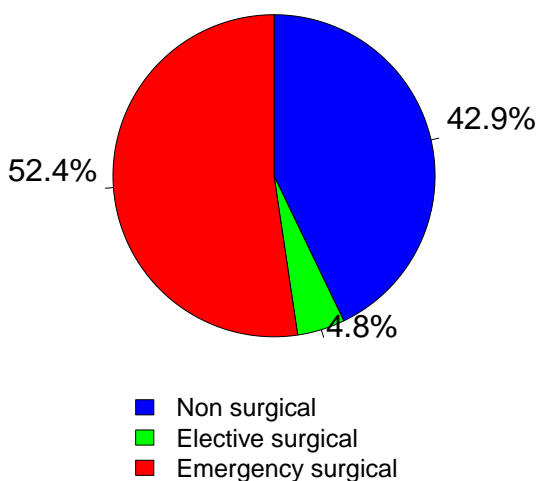
Overall population (3 ICUs) - Year 2020

Characteristics on admission - COVID adult patients

Trauma	N	%
No	18	85.7
Yes	3	14.3
Multiple trauma	0	0.0
Missing	0	

Surgical status	N	%
Non surgical	9	42.9
Elective surgical	1	4.8
Emergency surgical	11	52.4
Missing	0	

Surgical status



Source of admission	N	%
Surgical pt. (N=12)		
Operating theatre of surgical ward	2	16.7
Operating theatre of emergency room	2	16.7
Surgical ward	2	16.7
Other	6	50.0
Missing	0	

Surgical interventions (top 10)	N	%
Elective surgical (N=1)		
Gastrointestinal surgery	1	100.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Timing	N	%
Elective surgical (N=1)		
From -7 to -3 days	1	100.0
From -2 to -1 days	0	0.0
On ICU admission day	0	0.0
The day after ICU admission	0	0.0
Missing	0	

Surgical interventions (top 10)	N	%
Emergency surgical (N=11)		
Gastrointestinal surgery	2	18.2
Peripheral vascular surgery	2	18.2
Organ/s transplantation	2	18.2
Hepatic surgery	1	9.1
Plastic surgery	1	9.1
Thoracic surgery	1	9.1
Abdominal vascular surgery	1	9.1
Splenectomy	1	9.1
Other surgery	1	9.1
Liver transplantation	1	9.1
Missing	0	

Timing	N	%
Emergency surgical (N=11)		
From -7 to -3 days	2	18.2
From -2 to -1 days	0	0.0
On ICU admission day	12	109.1
The day after ICU admission	0	0.0
Missing	1	

Non surgical interventions	N	%
None	21	100.0
Elective	0	0.0
Emergency	0	0.0
Missing	0	

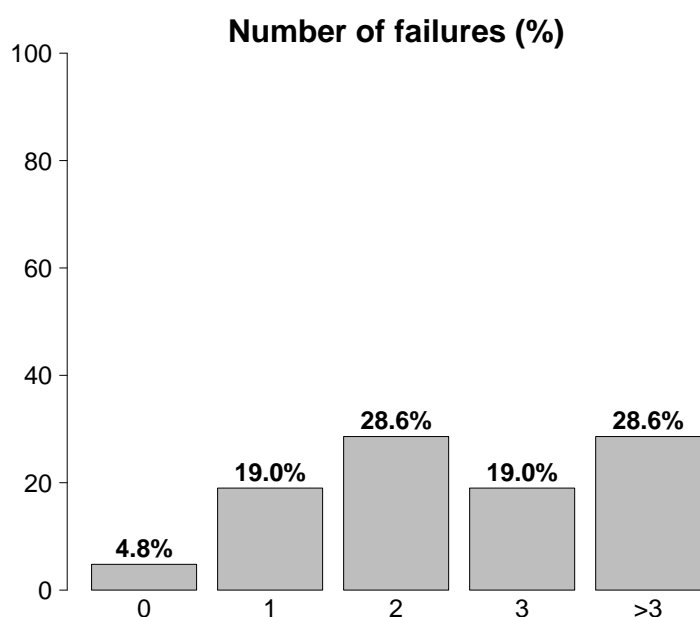
Non surgical interventions	N	%
Elective (N=0)		
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

Non surgical interventions	N	%
Emergency (N=0)		
Interventional radiology	0	0.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	0	

Overall population (3 ICUs) - Year 2020

Characteristics on admission - COVID adult patients

Reason for admission	N	%
Monitoring/Weaning	1	4.8
Post surgical weaning	0	0.0
Surgical monitoring	0	0.0
Post interventional weaning	0	0.0
Interventional monitoring	0	0.0
Non surgical monitoring	1	4.8
Missing	0	
Admission for procedures/treatments	0	0.0
Intensive Treatment	20	95.2
Only ventilatory support	8	38.1
Only cardiovascular support	2	9.5
Ventilatory and cardiovascular support	10	47.6
Missing	0	
Palliative Sedation	0	0.0
Diagnosis of death/Organ donation	0	0.0
Missing	0	



Failures on admission	N	%
No	1	4.8
Yes	20	95.2
A: Respiratory failure	18	85.7
B: Cardiovascular failure	12	57.1
C: Neurological failure	1	4.8
D: Hepatic failure	2	9.5
E: Renal failure	11	52.4
F: Acute skin failure	0	0.0
G: Metabolic failure	8	38.1
H: Coagulation failure	3	14.3
Missing	0	

Failures on admission (top 10)	N	%
A	4	19.0
AB	3	14.3
ABEH	2	9.5
AG	2	9.5
BEG	2	9.5
ABCEG	1	4.8
ABDEG	1	4.8
ABDEH	1	4.8
ABE	1	4.8
ABEG	1	4.8
Missing	0	

Respiratory failure	N	%
None	3	14.3
Only hypoxic failure	10	47.6
Only hypercapnic failure	0	0.0
Hypoxic-hypercapnic failure	4	19.0
Intubation for airway maint.	4	19.0
Missing	0	

Cardiovascular failure	N	%
None	9	42.9
Without shock	8	38.1
Cardiogenic shock	1	4.8
Septic shock	2	9.5
Haemorrhagic/hypovolemic shock	1	4.8
Hypovolemic shock	0	0.0
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	0	0.0
Mixed shock	0	0.0
Missing	0	

Neurologic failure	N	%
None	7	87.5
Cerebral coma	0	0.0
Metabolic coma	0	0.0
Postanoxic coma	1	12.5
Toxic coma	0	0.0
Missing or not evaluable	13	

Renal failure (AKIN)	N	%
None	9	45.0
Mild	2	10.0
Moderate	4	20.0
Severe	5	25.0
Missing	1	

Metabolic failure	N	%
None	12	60.0
pH <= 7.3, PaCO ₂ < 45 mmHg	3	15.0
Base deficit >= 5 mmol/L, lactate >1.5x	5	25.0
Missing	1	

Overall population (3 ICUs) - Year 2020**Characteristics on admission - COVID adult patients**

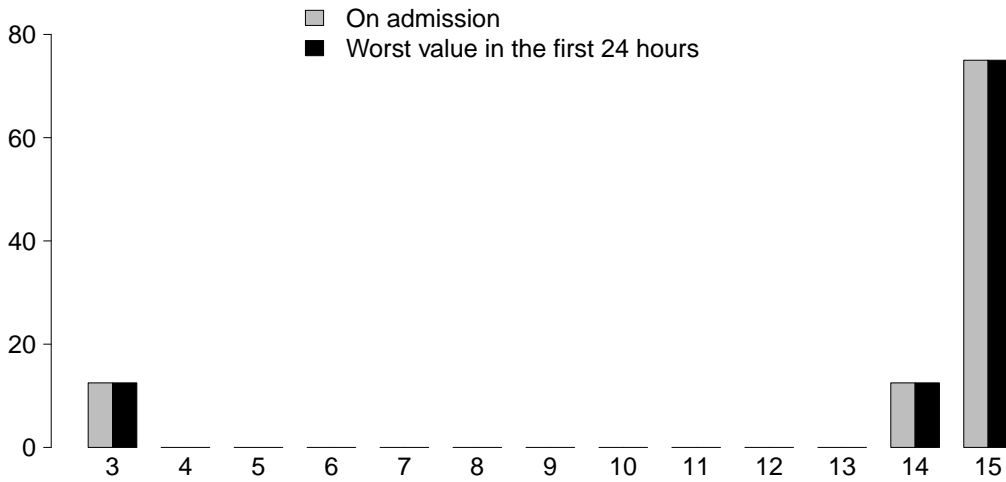
Clinical conditions on admission	N	%
Respiratory	6	28.6
Pleural effusion	2	9.5
Pulmonary embolism	2	9.5
Pneumothorax/Pneumomediastinum	1	4.8
Severe ARDS	1	4.8
-	0	0.0
Cardiovascular	5	23.8
Cardiac arrest	2	9.5
Peripheral vascular disease	2	9.5
Acute severe arrhythmia: tachycardias	1	4.8
Acute ischaemia	1	4.8
Deep venous thrombosis	1	4.8
Neurological	1	4.8
Metabolic/postanoxic encephalopathy	1	4.8
Seizures	1	4.8
-	0	0.0
-	0	0.0
-	0	0.0
Gastrointestinal and hepatic	8	38.1
Paralytic Ileus	3	14.3
Digestive tract malignancy	2	9.5
Hepatic malignancy	2	9.5
Bowel ischaemia	1	4.8
Intrabdominal bleeding (non traumatic)	1	4.8
Trauma (anatomical districts)	3	14.3
Head	1	4.8
Chest	1	4.8
Miscellaneous	1	4.8
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Other	6	28.6
Nephrourologic disease	4	19.0
Coagulation disorder	3	14.3
Other disease	1	4.8
Gynaecological disease	1	4.8
-	0	0.0
Post transplantation	2	9.5
Liver transplantation	1	4.8
Lung transplantation	1	4.8
Infections	21	100.0
COVID-19	21	100.0
Pneumonia	11	52.4
Post-surgical peritonitis	2	9.5
NON-surgical urinary tract infection	2	9.5
L.R.T.I. other than pneumonia	1	4.8
Other fungal infections	1	4.8
Pleurisy/Pleural empyema	1	4.8
NON-surgical secondary peritonitis	1	4.8
NON-surgical skin/soft tissue infection	1	4.8
-	0	0.0
Missing	0	

Trauma (anatomical districts)	N	%
Head	1	4.8
Cerebral contusion/laceration	1	4.8
Extradural/epidural haematoma	1	4.8
Traumatic subarachnoid haemorrhage	1	4.8
Skull fracture	1	4.8
-	0	0.0
Spine	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Chest	1	4.8
Traum. haemothorax/pneumothorax	1	4.8
-	0	0.0
-	0	0.0
Abdomen	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Pelvis/bone/joint & muscle	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Major vessels injury	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Miscellaneous	1	4.8
Inhalation injury	1	4.8
-	0	0.0
Missing	0	

PaO₂/FiO₂ (100*mmHg%) (prime 24h)	N	%
>=400 >=53.2 (0)	4	20.0
300-399 39.9-53.1 (1)	4	20.0
200-299 26.6-39.8 (2)	5	25.0
100-199 13.3-26.5 (3)	5	25.0
<100 <13.3 (4)	2	10.0
Missing	1	

Overall population (3 ICUs) - Year 2020
Severity scores - COVID adult patients

Glasgow Coma Scale (%)



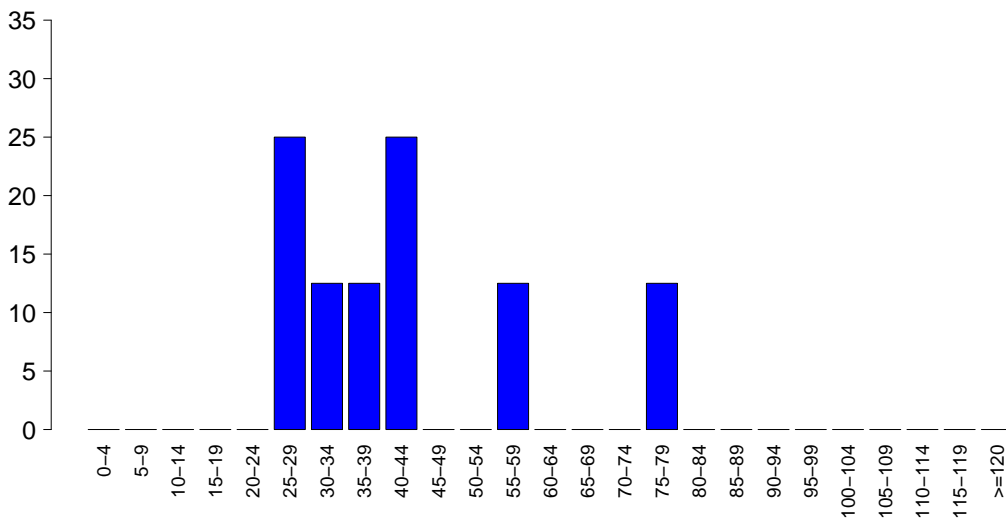
GCS (admission)

Median	15
Q1–Q3	14.8-15
Not evaluable	12
Missing	1

GCS (first 24 hours)

Median	15
Q1–Q3	14.8-15
Not evaluable	12
Missing	1

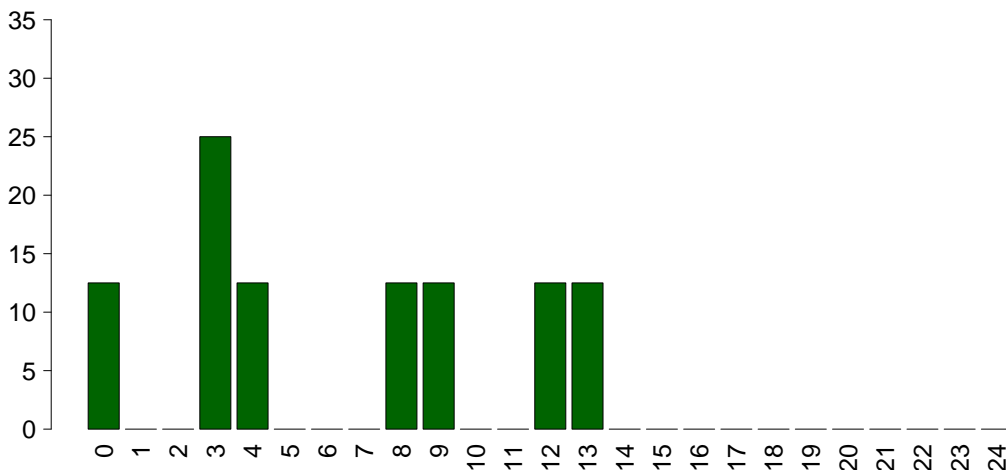
SAPS II (%)



SAPSII

Mean	42.5
SD	16.9
Median	38.5
Q1–Q3	29.8-46
Not evaluable	12
Missing	1

SOFA (%)



SOFA

Mean	6.5
SD	4.7
Median	6
Q1–Q3	3-9.8
Not evaluable	12
Missing	1

Overall population (3 ICUs) - Year 2020**Characteristics during the stay - COVID adult patients**

Complications during the stay	N	%
No	7	33.3
Yes	14	66.7
Missing	0	

Failures during the stay	N	%
No	14	66.7
Yes	7	33.3

A: Respiratory failure	2	9.5
B: Cardiovascular failure	2	9.5
C: Neurological failure	1	4.8
D: Hepatic failure	2	9.5
E: Renal failure (AKIN)	5	23.8
F: Acute skin failure	0	0.0
G: Metabolic failure	4	19.0
H: Coagulation failure	0	0.0
Missing	0	

Failures during the stay (top 10)	N	%
G	2	9.5
ABCE	1	4.8
AE	1	4.8
BDE	1	4.8
DEG	1	4.8
EG	1	4.8
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	0	

Respiratory failure occurred	N	%
None	19	90.5
Intubation for airway maint.	1	4.8
Hypoxic failure	2	9.5
Hypercapnic failure	0	0.0
Missing	0	

Cardiovascular failure occurred	N	%
None	19	90.5
Cardiogenic shock	0	0.0
Hypovolemic shock	0	0.0
Haemorrhagic/hypovolemic shock	0	0.0
Septic shock	1	4.8
Anaphylactic shock	0	0.0
Neurogenic shock	0	0.0
Other shock	1	4.8
Missing	0	

Neurological failure occurred	N	%
None	20	95.2
Cerebral coma	1	4.8
Metabolic coma	0	0.0
Postanoxic coma	0	0.0
Missing	0	

Renal failure occurred (AKIN)	N	%
None	16	76.2
Mild	0	0.0
Moderate	1	4.8
Severe	4	19.0
Missing	0	

Complications during the stay	N	%
Respiratory	2	9.5
Atelectasis	2	9.5
Pleural effusion	2	9.5
-	0	0.0
-	0	0.0
-	0	0.0
Cardiovascular	7	33.3
Deep venous thrombosis	3	14.3
Acute severe arrhythmia: tachycardias	3	14.3
Acute severe arrhythmia: bradycardias	1	4.8
Peripheral vascular disease	1	4.8
-	0	0.0
Neurological	3	14.3
Drowsiness/agitation/delirium	3	14.3
CrIMyNe	2	9.5
-	0	0.0
-	0	0.0
-	0	0.0
Gastrointestinal and hepatic	6	28.6
Intestinal occlusion	2	9.5
Liver Dysfunction Syndrome	2	9.5
Acute bile-duct disease	1	4.8
Abdominal compartment syndrome	1	4.8
Ascites	1	4.8
Other	8	38.1
Nephrourologic disease	5	23.8
Metabolic disorder	4	19.0
Other skin and/or soft tissue pathology	2	9.5
Category/Stage III: Full Thickness Skin Loss	1	4.8
Extremity compartment syndrome (severe)	1	4.8
Other disease	1	4.8
-	0	0.0
Infections	8	38.1
Pneumonia	4	19.0
NON-surgical urinary tract infection	3	14.3
Burn infection	1	4.8
L.R.T.I. other than pneumonia	1	4.8
Other fungal infections	1	4.8
Post-surgical peritonitis	1	4.8
Post-surgical skin/soft tissue infection	1	4.8
COVID-19	1	4.8
-	0	0.0
-	0	0.0
Missing	0	

Overall population (3 ICUs) - Year 2020**Characteristics during the stay - COVID adult patients**

Infections	N	%
None	0	0.0
Only on admission	13	61.9
On admission and during ICU stay	8	38.1
Only during ICU stay	0	0.0
Missing	0	

Ventil. Associat. Pneumonia (VAP)	N	%
No	17	85.0
Yes	3	15.0
Missing	1	

Incidence of VAP*(Pts. with VAP/1000 days of VM pre-VAP)*

Estimate	11.5
CI (95%)	2.4–33.7

Incidence of VAP*(Pts. with VAP/pts. ventilated for 8 days)*

Estimate	9.2%
CI (95%)	1.9–27.0

Catheter Bacteraemia (CR-BSI)	N	%
No	21	100.0
Yes	0	0.0
Missing	0	

Incidence of CR-BSI*(Pts. with CR-BSI/1000 days of CVC pre-CR-BSI)*

Estimate	0.0
CI (95%)	0.0–15.0

Incidence of CR-BSI*(Pts. with CR-BSI/pts. catheterized for 12 days)*

Estimate	0.0%
CI (95%)	0.0–18.0

Overall population (3 ICUs) - Year 2020
Process indicators - COVID adult patients

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)		Days from admission			
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Procedures (antibiotics excluded)	21	100.0										
Invasive ventilation	18	85.7	14	66.7	11	52.4	10	3-22	0	0	0-2	0
Non invasive ventilation	7	33.3	2	9.5	3	14.3	1	0-1	1	0	0-1	1
Tracheostomy	7	33.3	2	9.5	5	23.8	14	9-26	0	17	6-21	0
iNO (inhaled nitric oxide)	5	23.8	1	4.8	0	0	8	8-11	1	0	0-1	1
Central Venous Catheter	18	85.7	14	66.7	15	71.4	10	3-18	1	0	0-0	1
PICC	1	4.8	1	4.8	1	4.8	14	14-14	0			
Arterial Catheter	20	95.2	16	76.2	15	71.4	10	3-16	1	0	0-0	1
Vasoactive drugs	16	76.2	9	42.9	3	14.3	6	2-10	1	0	0-0	1
Antiarrhythmics	5	23.8	0	0	1	4.8	6	2-6	0	3	0-4	0
IABP	0	0.0										
Invasive monitoring of C.O.	3	14.3	1	4.8	1	4.8	10	7-14	0	0	0-0	0
Continuous monitoring of ScVO2	0	0.0										
Temporary pacing	0	0.0										
Ventricular assistance	0	0.0										
DC-shock	1	4.8								4	4-4	0
CPR	0	0.0										
Massive blood transfusion	0	0.0										
ICP monitoring without CSF drainage	0	0.0										
ICP monitoring with CSF drainage	0	0.0										
External ventricular drainage without ICP	0	0.0										
Haemofiltration	0	0.0										
Haemodialysis	5	23.8	2	9.5	1	4.8	13	10-26	0	2	2-4	0
ECMO	0	0.0										
Hepatic clearance techniques	0	0.0										
Clearance techniques during sepsis	1	4.8	0	0	0	0	1	1-1	0	1	1-1	0
IAP (intra-abdominal pressure)	5	23.8										
Hypothermia	1	4.8	0	0	0	0	1	1-1	0	0	0-0	0
Enteral nutrition	14	66.7	4	19	8	38.1	7	5-24	1	1	1-3	1
Parenteral nutrition	10	47.6	3	14.3	7	33.3	10	2-16	1	2	2-4	1
SDD (Topical, Topical and systemic)	0	0.0										
Patient restraint	1	4.8										
Peridural catheter	0	0.0										
Electrical cardioversion	0	0.0										
Vacuum therapy	2	9.5										

Overall population (3 ICUs) - Year 2020
Process indicators - COVID adult patients

Procedures and/or treatments (Missing=0)	Use		On admission		On discharge		Length (days)			Days from admission		
	N	%	N	%	N	%	Median	Q1-Q3	Missing	Median	Q1-Q3	Missing
Antibiotics	16	76.2										
Antibiotic prophylaxis	3	14.3	3	14.3	2	9.5	2	2-34	0			
Empirical antibiotic therapy (infection diagnosis confirmed)	6	28.6	2	9.5	0	0	2	2-4	1	2	1-2	1
Empirical antibiotic therapy (infection diagnosis unconfirmed)	0	0.0										
Targeted antibiotic therapy	15	71.4	8	38.1	10	47.6	10	8-22	1	2	1-5	1
Antifungal in empirical therapy	4	19.0	2	9.5	0	0	8	2-14	0	14	8-19	0
Antifungal in targeted therapy	7	33.3	2	9.5	3	14.3	8	6-12	1	2	2-7	1
Pre-emptive antifungal	0	0.0										

Antibiotic therapy

Pt. infected in ICU only (N=0)	N	%
No therapy	0	0.0
Only empirical	0	0.0
Only targeted	0	0.0
Targeted after empirical	0	0.0
Other	0	0.0
Missing	0	

Antifungal therapy

Pt. infected in ICU only (N=0)	N	%
No therapy	0	0.0
Only empirical	0	0.0
Only targeted	0	0.0
Targeted after empirical	0	0.0
Other	0	0.0
Missing	0	

Overall population (3 ICUs) - Year 2020**Process indicators - COVID adult patients**

Invasive ventilation (N=18)	N	%	Length (days)				Missing
			Mean	SD	Median	Q1-Q3	
Due to pulmonary failure	13	68.4	20.9	19.2	14	8-31	0
For airway maintenance	4	21.1	1.8	2.2	1	0.8-2	0
In weaning	0	0.0					
Not evaluable	2	10.5	9.0		9	9-9	1
Reintubation within 48 hours	1	5.3	37.0		37	37-37	0

Non invasive ventilation (N=7)	N	%
Non invasive ventilation only	2	28.6
Non invasive ventilation failed	2	28.6
For weaning	2	28.6
Other	1	14.3
Missing	0	

Tracheostomy not present on admission (N=5)	N	%
Surgical	2	40.0
Percutwist	0	0.0
Ciaglia	1	20.0
Monodil. Ciaglia	0	0.0
Fantoni	0	0.0
Griggs	0	0.0
Other Kind	1	20.0
Unknown	1	20.0
Missing	0	

Tracheostomy - Days after the beginning of inv. vent. Not present on admission (N=5)

Mean	13.0
SD	9.5
Median	17
Q1-Q3	6-20
Missing	0

Invasive monitoring of C.O. (N=3)	N	%
Swan Ganz	1	33.3
PICCO	2	66.7
LIDCO	0	0.0
Vigileo-PRAM	0	0.0
Other	0	0.0
Missing	0	

SDD (N=0)	N	%
Topical	0	0.0
Topical and systemic	0	0.0
Missing	0	

Surgical interventions	N	%
No	17	85.0
Yes	3	15.0
Missing	1	

Number of surgical interventions	N	%
0	17	85.0
1	1	5.0
2	0	0.0
3	1	5.0
>3	1	5.0
Missing	1	

Surgical interventions**Days from admission**

Mean	15.7
SD	16.4
Median	10.5
Q1-Q3	6.5-17.8
Missing	0

Surgical interventions (top 10)	N	%
Other surgery	5	25.0
Gastrointestinal surgery	2	10.0
Plastic surgery	1	5.0
ENT surgery	1	5.0
Thoracic surgery	1	5.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
-	0	0.0
Missing	1	

Non surgical interventions	N	%
No	19	95.0
Yes	1	5.0
Missing	1	

Non surgical interventions**Days from admission**

Mean	13.0
SD	
Median	13
Q1-Q3	13-13
Missing	0

Non surgical interventions	N	%
Interventional radiology	1	5.0
Interventional cardiology	0	0.0
Interventional neuroradiology	0	0.0
Interventional endoscopy	0	0.0
Missing	1	

Overall population (3 ICUs) - Year 2020
Outcome indicators - COVID adult patients

ICU outcome	N	%
Dead	5	25.0
Transferred to same hospital	15	75.0
Transferred to other hospital	0	0.0
Discharged home	0	0.0
Disch. terminally ill	0	0.0
Missing	1	

Transferred to (N=15)	N	%
Ward	5	33.3
Other ICU	5	33.3
High dependency care unit	5	33.3
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Reason of transfer to Other ICU (N=5)	N	%
Specialist expertise	1	20.0
Step-up care	0	0.0
Logistical/organizational reasons	4	80.0
Step-down care	0	0.0
Missing	0	

Transferred to Same hospital (N=15)	N	%
Ward	5	33.3
Other ICU	5	33.3
High dependency care unit	5	33.3
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

Transferred to Other hospital (N=0)	N	%
Ward	0	0.0
Other ICU	0	0.0
High dependency care unit	0	0.0
Rehabilitation	0	0.0
Day hospital or Long-term care	0	0.0
Missing	0	

ICU mortality	N	%
Alive	15	75.0
Dead	5	25.0
Missing	1	

Timing of ICU mortality (N=5)	N	%
Daytime (08:00AM - 07:59PM)	5	100.0
Nighttime (08:00PM - 07:59AM)	0	0.0
Weekdays (Monday - Friday)	4	80.0
Weekend (Saturday - Sunday)	1	20.0
Missing	0	

Hospital mortality	N	%
Alive	11	57.9
Dead	8	42.1
Missing	2	

Timing of hosp. mortality (N=8)	N	%
In ICU	5	62.5
Within 24 hours after ICU	0	0.0
24-47 hours after ICU	0	0.0
48-71 hours after ICU	0	0.0
72-95 hours after ICU	1	12.5
After 95 hours after ICU	2	25.0
Missing	0	

Timing of hosp. mortality (days from ICU disch.) Discharged alive from ICU (N=3)		
Mean		11.0
SD		11.4
Median		6
Q1–Q3		4.5-15
Missing		0

Overall population (3 ICUs) - Year 2020**Outcome indicators - COVID adult patients**

Last hospital mortality	N	%
Alive	11	57.9
Dead	8	42.1
Missing	2	

Readmission from ward	N	%
No	21	100.0
Yes	0	0.0
Missing	0	

Number of readmissions (N=0)	N	%
1	0	0.0
2	0	0.0
>2	0	0.0
Missing	0	

Timing of readmission (N=0)	N	%
Within 48 hours	0	0.0
48-71 hours	0	0.0
72-95 hours	0	0.0
After 95 hours	0	0.0
Missing	0	

Timing readmission (days)	N	%
Mean	0	
SD		
Median		
Q1–Q3		

ICU stay (days)		
Mean	16.9	
SD	19.4	
Median	10	
Q1–Q3	3-25	
Missing	0	

ICU stay (days)		
Alive (N=15)		
Mean	13.0	
SD	20.2	
Median	6	
Q1–Q3	1.5-12	
Missing	0	

ICU stay (days)		
Dead (N=5)		
Mean	23.0	
SD	12.9	
Median	25	
Q1–Q3	10-31	
Missing	0	

Stay after ICU (days)		
Alive (N=15)		
Mean	20.8	
SD	21.8	
Median	18	
Q1–Q3	6.2-25.5	
Missing	1	

Hospital stay (days)		
Mean	37.3	
SD	32.6	
Median	31	
Q1–Q3	15.5-47	
Missing	2	

Hospital stay (days)		
Alive (N=11)		
Mean	39.6	
SD	40.3	
Median	26	
Q1–Q3	15.5-42.5	
Missing	0	

Hospital stay (days)		
Dead (N=8)		
Mean	34.1	
SD	19.9	
Median	36	
Q1–Q3	24.2-46.5	
Missing	0	